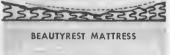


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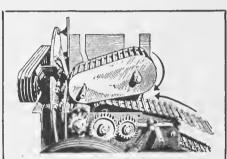
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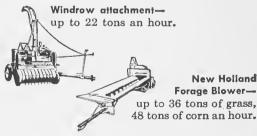
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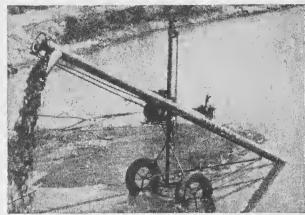
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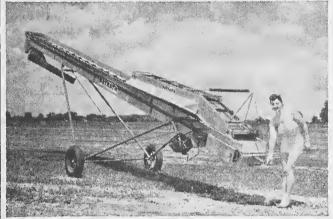
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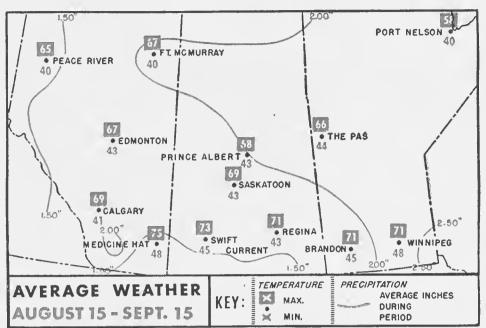
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Prairie Weather

Prepared by Dr. IRVING P. KRICK and Staff



(Allow a day or two either way in using this forecast. It should be 75 per cent right for your area, but not necessarily for your farm.—ed.)



Alberta

Warmer than normal weather prevailed last year during the mid-August to mid-September period, particularly in the first and last weeks of the interval. Rainfall was generally deficient with the exception of late August. Moderate to heavy precipitation amounts were recorded on the 24th. A severe thunderstorm on this date resulted in hurricane velocity winds in the Medicine Hat area, as well as heavy rain and hail. For 1954, a definite trend

from above to below normal temperatures is in prospect. Colder weather is bringing frosts to most of the province by mid-month. Rainfall will be characterized by a noticeable trend upward. Drier weather is in prospect for August while during the September portion of the period, wetter than usual conditions should be anticipated. Thus, early fall moisture on Alberta pastures and ranges should assist in maintaining forage. Harvest activities may expect delay to result during the September stormy intervals.



Saskatchewan

A significant shift in the major weather pattern is expected to take place early in September, 1954. Prior to this time, Saskatchewan will experience generally warmer and drier than usual conditions. During the first two weeks of September, however, temperatures are expected to drop to below normal levels. A return to the occurrence of general rains also is anticipated, this in contrast to the summer, shower-type of storminess. Thus, interruptions in farm and ranch activi-

ties should be anticipated with field work likely to suffer locally serious delays. As was the case last year in Alberta, Saskatchewan recorded moderate to heavy rainfall in late August, primarily as a result of severe thunderstorms. Nevertheless, temperatures during the last two weeks averaged well above normal. Cooler weather made an appearance in early September, but warm conditions were once again prevailing at mid-month. As might be expected, rainfall exceeded the average only during the first week of September.

RAINFALL	AUGUST		SEPTEMBER			
30 DAYS	20	CHUMEDO	31 5	DAINS	10	15
ahead TEMPERATURE	COOL	HOT	COLD	NAIN		

Manitoba

The second half of August, 1953, was associated with above normal temperatures in Manitoba. Early September, however, brought cold and wet weather into the area. This was followed by a short warm spell after which temperatures returned to near normal values. Nearly all of the precipitation that occurred in the latter part of August occurred in thunderstorms with amounts varying greatly from place to place. For the next 30 days, Manitoba farmers and ranchers

should anticipate a change from the warmer than usual weather in prospect during the last two weeks of August to colder than normal weather during the first two weeks of September. The cold outbreaks that are in prospect will bring freezing or nearfreezing temperatures to many of Manitoba's agricultural areas prior to the end of the period. Precipitation will range from normal in the northern and central portions of the province to slightly above normal in the south. Moderate to locally heavy rainfall during September may delay harvest. V

AUGUST SEPTEMBER RAINFALL COOL HOT COLD TEMPERATURE



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N a land where the customs and traditions of farming are measured by centuries rather than by decades, and where the last acre of arable land has long since been put into production, the challenge to each new generation of farmers to maintain and improve the standards of agriculture becomes increasingly heavy.

In one of the rich vales of Northern Ireland, which lend themselves so well to intensive farming, a two generation team appears to have come up with a very workable solution to the challenge. The 108acre dairy farm of B. B. Hutchinson and Sons near Cookstown, in County Londonderry, is the case in

There are a number of reasons why the Hutchinson farm can not be cited as a typical example of Irish agriculture, but most of the differences have been brought about by the Hutchinsons themselves in their scarch for a set-up that would suit their particular family needs.

In the first place, 108 acres is well above the average Irish farm in size. It is roughly double the size of the farm the senior Hutchinson worked before acquiring the present holding in 1930, with an eye to fitting in a family of three boys, then in knee

Secondly, the Hutchinsons have chosen to specialize, devoting almost all their attention to dairying, while gradually paring down such sidelines as hogs, sheep and field crops, still common with their neighbors.

From a purely geographic point of view, the Hutchinson land isn't nearly as rolling as most Irish farms. The Hutchinson machinery has never been forced up 45-degree sidehills in quest of the last foot of arable ground. On the contrary, one of the major problems on the farm has been the recurrent winter flooding of the Ballinderry River, which cuts through the acreage. Excess water has covered as much as 40 acres of good flat land.

But the operation of this farm is very typical in one very important aspect; it is a 100 per cent family unit, as are the great majority of Ulster farms. With an unusual amount of ingenuity, the Hutchinsons have worked out a division of labor and profit that has allowed room in the enterprise for two of the three sons.

The backbone of the enterprise is a herd-100 head-of good Holsteins, mostly grade, but with an increasing percentage of pedigree animals. There are now 20 registered cows in the herd. High-grade sires have been used ever since the herd was founded. The second brother, Stanley, who now takes the major responsibility for the management of the herd, figures that Big Bridge Farm gets an average of between 8,000 and 9,000 pounds per cow per lactation period.

The unique feature about the Hutchinson opera-

tion is that they are now (since last October) retailing their own fluid milk. This extension of the enterprise was undertaken to give youngest son, Sam, an outlet for his energy and ability. Now, as salesman for the partnership, he has close to 500 customers' in nearby Cookstown.

THE Hutchinsons' entry ■ into the retail milk distribution business has given rise to a situation which apparently appeals to puckish Irish humor. Sam loves to relate that the Milk Marketing Board of the British Ministry of Food buys the milk from his father, then resells it to him without the milk ever leaving the farm. At certain times of the year, when government subsidy is Located in County Londonderry, Hutchinsons, father and sons, do well with about one hundred head of Holsteins on a 108-acre farm

by PETER HENDRY

in effect, Sam gets the milk for less than his father receives. His margin as a distributor, however, is also controlled by the Food Ministry.

The Hutchinson herd rates as Grade A, which means that they are attested as tubercular-free. Since Ulster as yet has not adopted a blanket TBfrec area policy, only Grade A herds are allowed to sell milk commercially.

When he entered the distribution business, Sam decided on the use of paper cartons; and the Hutchinson dairy is well equipped for rapid filling and stapling of the cartons.



The Hutchiusous of Big Bridge Farm, left to right, Stanley, Mr. and Mrs. Hutchinson, and Sam.



Part of the 100-head Hutchinson herd of purebred and grade Holsteins on lush Londonderry grass.

The major handicap at present is one of accommodation for the herd and of efficiency in getting the milk from the stable to the dairy. As on a great many Irish farms, the buildings are built in a connecting chain around a central courtyard. In this particular case efficient production is complicated by the fact that the present stables were originally coach-houses, and obviously were never intended for dairy production.

When we visited the Hutchinson farm in June, father and sons were poring over architect's drawings for a new barn; and a fierce, but friendly, argument was ensuing on the relative merits of different designs. The partners had almost agreed to invest the additional capital needed for the width of two feed passages down the front of the stanchions, something not normally seen in many of the older "byres." When the new barn, a one-storey affair, is completed, the older buildings will be used to house the younger stock.

It was rather interesting to note that the family could not entertain the idea of a central feed passage between facing stanchions, because such construction is forbidden by Irish law, owing to the prevalence of tuberculosis. Stanley was plumping to have the new barn built adjoining the dairy to save a lengthy lug with buckets of milk. But his plan meant destruction of the present laying house for the hens, and the elder Hutchinson was strongly opposed to any such wanton expense.

The family was already engaged in building an addition to the trench silo, to take care of the extra tonnage needed for a growing herd.

RACTICALLY all the grass production that is harvested on the farm is for silage. Of the 108 acres, only 12 were in field crops-oats and kale. The balance, with the exception of about ten acres of rough meadow growing native grass, is seeded to mixtures of red and white clovers and various

This year the Hutchinsons planned to put up 25 acres of grass silage. The remaining 60 acres were carrying the herd of about 100 head. They were using an electric fence to rotate the cows on various parts of the pasture each week, a practice quite common in Ulster.

On the silage ground the Hutchinsons were looking for about eight tons to the acre. With a generally late season in 1954, they planned to take only one cut, although two cuts are often the practice.

Silage operations have been modernized to require a minimum of hand labor. After mowing, the green hay is picked up into a trailer with an automatic loader and hauled to the trench silo for dumping. The tractor is then run in to tramp down the fill.

From May to October, roughly, the Hutchinson cows get no supplement to the pasture grazing. In

winter months, along with the silage, the herd is given rations of kale-a kind of headless cabbage, and a prepared dairy meal. Actually, Irish pastures stay green through above-freezing winter temperatures, but heavier rains at that season leave the pastures boggy. To allow the herd to graze would leave the pastures punched full of hoof-prints.

As a rule, the Hutchinsons do not leave their pasture mixtures down for more than three or four years. The general practice, after plowing them up, is to reseed them directly to new mixtures. First, however, there is an application of two tons of ground limestone per acre, followed

(Please turn to page 38)



Bud had set his mind on buying that shiny new fishing reel but he did not have the necessary dollar. When he came to make a charge for a job done he remembered his mother's words—to think back and consider all things

N my way home from school, I stopped in Mr. Perdy's store and looked at the new reels again. I looked again at the price tag on the reel, which said one dollar. With one dollar, I could buy one of the reels and fasten it to my fishing pole, and then I wouldn't be ashamed for the other boys who had shiny rods and reels to see me fishing.

But the trouble was I did not have the one dollar, and I had already looked in my mother's money cup on top of the kitchen cabinet, and I knew she did not have it; besides, she always considered fishing rods and reels as luxuries and thought I needed shoes and clothes worse.

So I came slowly up the road with my bookstrap across my shoulder, and thought of the next day which was Saturday. Yes, Saturday and no school, and the water warm in the creek, and the crickets singing across the fields, for things stir and sing in

the spring.

Even old Mrs. Pemberton was out. When I got in sight of her house, I saw her. She had her cane and she was pulling down the branches of an old apple tree in the corner of her yard and feeling the buds.

When she heard my footsteps, she shaded her eyes with her hand and looked at me. She was trying to make out whether it was me or not, for she couldn't see good.

"That you, Bud?" she said.

"Yes, Mrs. Pemberton."

"I was waiting for you," she said. "I thought it was about time you'd be coming along the road from school . . ."

That did not please me much. I guessed maybe Mrs. Pemberton had some kind of an errand for me, or a chore, and I remembered that my mother would not allow me to charge old Mrs. Pemberton for the little things I did for her. My mother considered that being as Mrs. Pemberton had all our lives been our next door neighbor on the farm, and her being pretty old now and living alone, it was all right and proper for me to do little things for her without charge. But now I was growing up. I had heard other boys 14 years old tell of doing odd jobs and getting paid, and I knew that was why they could have shiny new fishing rods and reels and I had to use my old willow pole and be almost ashamed for them to see me.

A ND while such things flashed across my mind, Mrs. Pemberton said, "Wait a minute," and she went into the house fast as she could with her rheumatism and her cane, and she came out with something wrapped in a pink paper.

"It's my new spring dress," she said, and she fumbled with one corner of the pink paper and showed me the flaming calico cloth, and then she talked. She talked as if mostly to herself, and as if knowing such things would not interest a 14-year-

"I'm not as old as this old apple tree," she said.
"I've got as much right to flower out in the springtime as it has."

"But I can't see good any more," she said, "and my hands shake so. I want you to take this

Remember Back

by MARK HAGER

cloth to your ma. Tell your ma the pattern's rolled in with it . . . the pattern I like with the high shoulder ruffles. Tell your ma I'll pay her for making my dress."

"Oh, sure," I said. "I'll be glad to take it."

But up to there my words were automatic, same as any boy would speak to an old lady, and I took the pink package under my arm and walked on, and hadn't taken but a few steps until the thing kind of came alive and interesting.

"Tell your ma I'll pay her . . ."

I thought of the fishing rod reels down in Mr. Perdy's store. I could see the price tag with one dollar on it, and I wondered what would be a fair price for making a dress, and with me taking the dress to my mother, and taking it back after she finished, and my mother knowing I had cried already for one dollar for a fishing reel, I thought no doubt she would let me have the one dollar, or whatever she charged for making the dress.

I told my mother that old Mrs. Pemberton had said she would pay her.

I recollect my mother gently and slowly unrolled the pink paper and held the flimsy paper pattern in one hand and the bright, flowered calico cloth in the other, and she did not answer me. "Looks to me like it ought to be worth no less than a dollar to make a dress," I said.

Still Ma did not answer. She just touched the calico to her cheek, and looked off.

"With one dollar," I said, "I could buy me one of the new reels in Mr. Perdy's store."

My mother said, "Well, we'll think about it."

I SAW her sewing that night. She measured and sewed on our sewing machine till late in the night, and would try the pieces with her arms and chin. Then I saw her try the sections of the dress with the high fluffy ruffles across the shoulders.

While I stood and watched my mother sew and try the sections of the dress to her own body, I got to see the spring dress take form and shape, and once my mother spoke.

"Only ten years ago," my mother said, "Mrs. Pemberton could have made it herself. She had a good nerve then, and her eyes were not so bad. But Mr. Pemberton's death, and all . . . it kind of broke her up . . . and she shakes now, and her eyes are failing."

"But she's kind of proud yet," I said. "She was feeling the buds of the old apple tree in her yard. She said it was going (Please turn to page 39)





Scientists expect chemical control of wild oats will be practicable before long, but meanwhile, cultural control is still the best bet

NEVER faced a spring before when I just didn't know what to do with my land. This wild oats has got me." The time was April of this year, and the speaker was Howard Williamson, Belmont, Manitoba. Mr. Williamson has never used 2,4-D to any great extent, because he feels that a good farmer ought to be able to control his weeds, without the aid of chemical expedients.

"You'd think wild oats had a sixth sense the way they know just when to grow," said his neighbor, J. R. Stephenson, who, with sons Leo, Cecil and Glenn, farms 900 acres six miles south of Belmont. "Wild oats seem to know when they don't have a chance," he continued. "But give them ideal conditions and they really come."

The Stephensons have had considerable success in reducing wild oats with delayed seeding in a summerfallow, barley, barley rotation. Crops have been good, and they have clicked on the malting grade in each of the last five years.

But barley lodges on Mr. Williamson's land, and he feels that he can't make the money out of oats and barley that he can out of wheat and flax. You can't sow wheat too late without running into reduced yields, and flax is a notoriously poor competitor. He's sown fall rye, but, though he harvests a clean crop, the wild oats don't sprout. They lie in the soil until conditions are right and then come up rapidly. This adds up to the fact that it is difficult to grow wheat, oats, barley, fall rye or flax on the Williamson farm without getting more wild oats or losing some income. This is true, also, of thousands of farms across the West.

In the end it becomes a question of compromise. Crops and methods are selected that produce a minimum of wild oats while producing a maximum of income.

The McFaddens, at Rivers, Manitoba. Don with three quarters, and his father, Chester, with a section-and-a-half, have made this compromise. "The land is rolling with some long draws and with soil

by RALPH HEDLIN

that varies from a sandy loam to a clay loam. As is so often the case with this weed, the parts of the field where you expect the heaviest yield you raise the biggest crops of wild oats," commented Don. "But we've had some solid successes against wild oats," he concluded.

These "solid successes" have been gained by the use of delayed seeding, forage crops, and, of course, the careful use of clean seed.

The McFaddens' practice in recent years has been to go over both summerfallow and stubble fields with the one-way or rotating harrows, beginning in the third or fourth week of April. This kills successive crops of wild oats until some time after May 20, when the seed is hurried into the ground. They have reduced their wild oats.

But there can be problems. Last year they ran into cold, dry weather in the early spring and the wild oats didn't grow. Then when they decided they must get on with the seeding, it turned wet. The result was that it was June 22 before they finished seeding. Oats sown after June 10 were down ten bushels in yield and a grade in quality, as compared with that sown earlier.

Don's father, Chester McFadden, has been making more use of forage crops. He has seeded infested fields and left them down to brome, or brome and alfalfa, for five or six years. This reduced wild oats and, when used in conjunction with subsequent delayed, seeding of field crops, reduced the weed almost to the point of eliminating it.

SOME dramatic results with delayed seeding on wild oats infested land have been obtained at the Experimental Station, Melfort, Saskatchewan. The station agronomist, B. K. McDonald, reports that late seeded barley yielded 71.4 bushels per acre, compared with a yield of 64.0 for normal seeding. The former contained 9.35 per cent wild

oats, and the latter 34.32 per cent. Barley yields were slightly increased and wild oats infestation was reduced, by after-seeding tillage and fall tillage. The early maturing barley, Olli, was used in all the experiments.

Detailed information on the cultural control of wild oats has been given to The Country Guide by H. W. Leggett, superintendent, Experimental Substation, Regina. Mr. Leggett is project leader for wild oats control in western Canada.

He commented on chemical control, which will be discussed later in this article. "Chemical control is not, we believe, feasible at this time, though some of the work is showing promising results," he said. "Cultural control continues to be the only practicable method of controlling wild oats."

Methods of control fall under four natural headings: fall cultivation; delayed seeding of wild oats infested land; post seeding cultivation; and selection of crops.

Fall cultivation should be postponed to allow the wild oats to lie on the soil surface until they are completely dried out. They should then be covered lightly but thoroughly, so they will be in condition to germinate in the fall, or early in the spring. The correct time to cultivate will depend on when harvesting is completed and the dryness of the fall. The wild oats should be given as much time to dry as possible.

Early spring tillage is essential to aerate the soil and encourage wild oats germination, whether the land is to be cropped or fallowed. Tillage should be shallow, probably three to four inches, but the first tillage operation should be the deepest. Seeding must be delayed until the wild oats have come up and been killed. This usually takes about a month, due to the various depths from which wild oats must emerge. Early maturing varieties of barley are less likely to be caught by fall frosts.

Crops can be given a quick start by shallow seeding, when moisture (Please turn to page 35)

Let's Look at the Co-ops



One evidence that co-ops are going modern is to be seen in the increasing number of new and attractive buildings, store fronts and so on, that are now quite common.

O-OPERATION is one of the great words of the language. It is the name for a multitude of activities in human society, mostly beneficial in character, and is achieving more meaning and dignity as it is applied to wider areas of social and economic life. Co-operation, in its general sense, is the one formula above others which must be applied to our modern life, if humanity is to survive and enjoy the fruits of progress. We are concerned here, however, with the special application of co-operation to the economic field.

Co-operation in the business of buying and selling, is growing steadily the world over. It requires, of those who engage in it, certain qualities of mind, and calls, primarily, for an attitude toward one's fellows—not belief in a doctrine. In its simplest form it is faith in other people, coupled with the belief that, with others, we can accomplish more work, with better results, than we can alone.

In Canada, co-operative organization has been chiefly effective among farmers. They have provided an illustration of the simplicity of the co-operative idea. It is safe to say that thousands of the co-operating farmers of western Canada, for instance, had never heard of the Rochdale Pioneers, or the philosophy of the co-operative movement, when, in the early years of the century, they got together to rid themselves of the handicaps created by railway and elevator company monopolies. Since those original efforts at co-operation, they have gone on to apply co-operative principles to the marketing of almost everything grown on the farm.

Some people would have us believe that the farmer is by nature a pure individualist. Nevertheless, it has been proved over and over again that the farmers of the North American continent, among the most independent and prosperous in the world, can and do set aside their individualism, and join together to build business enterprises for their mutual benefit. It is an interesting speculation as to how low their standard of living might now be, if they had not practised co-operation.

Let us take a look at the Co-operative movement in Canada. There is some question as to whether we have a "movement." What we really have is a large number of co-operatives—business enterprises conducted on a co-operative basis—in almost every field of commerce, and in some other fields.

Laws governing co-operatives are the responsibility of the provinces. In the course of the years these laws have attained a degree of uniformity. There is, as yet, no co-operative act in our Federal statutes, but the question of the need for such an act arises from time to time. Co-operatives functioning on an inter-provincial basis have been given incorporation under The Companies Act.

Because governmental policy on the national level affects co-operatives in many ways, they have achieved some integration for special purposes. Commencing in a humble way 45 years ago, they formed the Co-operative Union of Canada. Years later, the French-speaking co-operators of Quebec formed Le Conseil de la Co-operation, of which there are now provincial units in several provinces.

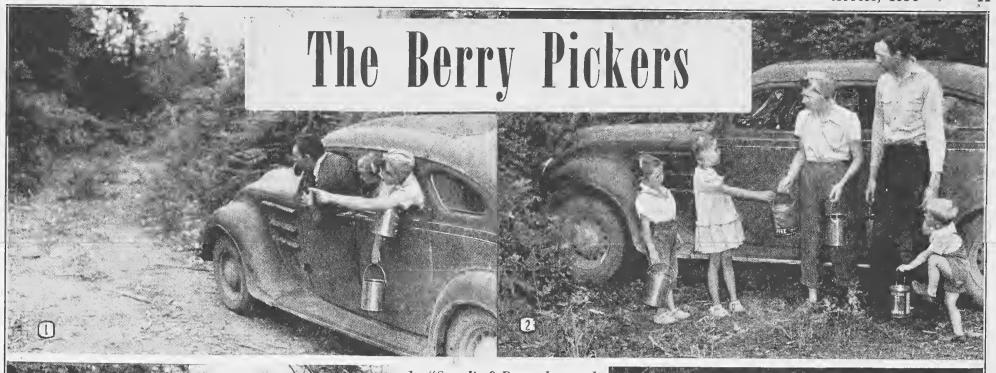
One of the most important developments affecting co-operatives was the formation of the Canadian Federation of Agriculture, with its provincial affiliates composed of farm co-operatives, functioning on an interprovincial basis. The strength of the Federation, which has come to be regarded nationally and internationally as the voice of the Canadian farmer, depends to a very great degree upon the support of the farm co-operatives.

There are other integrations, such as Maritime Co-operative Services which serves the provinces of Nova Scotia, New Brunswick and Prince Edward Island as a wholesale agency. There is also Interprovincial Co-operatives Limited, a kind of super wholesale, which serves the co-operative wholesale societies of the provinces, in increasing lines of merchandise; and has entered the manufacturing field. In the West we have several interprovincial bodies. Canadian Co-operative Wheat Producers Limited functioned before the days of the Wheat Board as

the central selling agency of the three prairie wheat pools and still provides a means of consultation for co-ordination of policy. United Grain Growers Limited have extensive elevator interests in our three prairie provinces, and in the eastern fringes of British Columbia. Canadian Co-operative Implements Limited, with headquarters at Winnipeg, Co-operative Life Insurance Company, and Cooperative Fire and Casualty Company, with headquarters at Regina, all step over provincial boundaries and are becoming more or less national in scope. When these insurance co-operatives were formed a few years ago, it was demonstrated that we have something approximating a co-operative movement. The deposits and guarantees required to launch them were provided by other co-operatives across Canada.

Within the provinces there has been a degree of consolidation of interests among the commercial cooperatives, and in the educational field. We have the Co-operative Federee in Quebec and the United Cooperatives of Ontario. In Saskatchewan the original Co-operative Wholesale and the Consumers Cooperative Refinery became one organization, Saskatchewan Federated Co-operatives. On the Atlantic coast we have United Maritime Fishermen, and in B.C., the B.C. Fishermen's Federation. In every province a very large percentage of the co-operative stores are affiliated with their provincial co-operative wholesale societies. There is widespread support among various types of co-operatives in every province, for their respective Co-operative Unions, and through them, of the national body, The Co-operative Union of Canada.

PERHAPS we should not be concerned with integration or consolidation of co-operatives, or with the building of a co-operative movement. There are many members of co-operatives who view askance the efforts we make toward bigness. They see no challenge in the efficiency of modern merchandising, marketing, service and financial organizations. One (Please turn to page 36)





- 1. "See, Jim? Down that road the berries are bound to be thick."
- 2. "Well, here we are, anyway! Here is your pail, Mary Anne! Junior, keep your foot out of yours!"
- 3. "Now, Ella, don't get lost; and keep the girls close to you."
- 4. Alas! Mary Anne and Bertha
 Mae do get lost 25 feet away
 from Mother, and do the
 best thing they can think of,
 while . . .
- 5. Dad becomes a combination packhorse and prospector, because Junior's legs are too short and he gets tired.
- 6. Mother is sure there are dandy berries just ahead, but the situation has its drawbacks, even if Junior seems quite undaunted after a rest.
- 7. At last Tarzan decides that it is time to call his mate...
- 8. And soon the family is reunited on the car bumper with pails full of free berries—with more inside—, and each with jubilation well under control.











Picture story by ERIC WAHLEEN

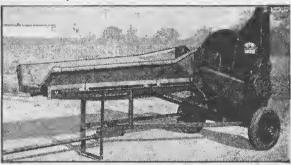
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Letter From Rome

by JOHN ANDERSON

Increased Italian Milk Production. In common with other European countries, Italy has increased her production of milk and milk products since the war. Present annual production of approximately 1,200 million gallons represents a thirty-three and one-third per cent increase over the prewar figure. The increase in dairy herds-18 per cent above prewar-which has made the improved milk production possible has been achieved in spite of the slaughtering necessitated by lack of feed grains after the years of bad harvests.

New Customer. Russia is showing signs of becoming a steady customer for western butter. Last year's purchases, according to a recent statistical bulletin published by F.A.O., put Russia as second only to the United Kingdom as a butter buyer in world markets. The bulk of the Russian purchases were made in the Netherlands, Denmark, Sweden, Argentina, Australia and New Zealand and further purchases of Danish and Dutch butter are announced for this year.

1954 Harvest Prospects in Italy. After a cold, wet spring and a latearriving summer, the indications in Italy are that this year's harvest will fall considerably below last year's record-breaking figure of 9,000,000 metric tons. First threshing reports show that the fall may be as much as 20 per cent and this will mean that the coming harvest will fail to meet Italian domestic requirements by between one million and two million metric tons. However, with an estimated carryover in the region of 2,000,000 tons, government officials believe that no sizeable importation of grains will be necessary in the coming year other than imports amounting to 650,000 tons already contracted for in agreements with Argentina, Russia and Turkey.

International Meeting on European Agriculture. The F.A.O. European Committee on Agriculture met in Rome, June 14-18. At this meetingthe Committee's sixth-livestock questions took the leading place with improved feeding methods and increased fodder production being discussed along with methods of instituting joint inter-governmental action against footand-mouth disease.

Commonwealth Aid for Ceylon Agriculture. Ceylon expects Canadian representation may be included in a Commonwealth group of agricultural and economic experts who are to assist Ceylon in formulating a program to improve the island's agricultural development. Under the Colombo Plan, Canada is already giving considerable assistance to Ceylon. Part of this assistance is in connection with a new harbor project designed to improve Ceylon's fishing industry and for which Canada has given refrigeration plant and workshop equipment to a value of \$525,000.

No Grain Imports for India. A food ministry official of the Indian government has announced that this year India will make no purchases of grain abroad.

Under the Peace Tower

by HUGH BOYD

TTAWA seems to give less of an impression of permanence and stability than most Canadian communities because it is a place of constant comings and goings. There is the periodic departure of Parliament itself, as at the present time; and, in election years, the sometimes permanent disappearance of many faces that had been familiar around the capital.

There is also a certain amount of shuffling within the ranks of the permanent service, hundreds if not thousands of whose members, by the nature of their work, never become deeply rooted in any one spot or even in any one country. And there is the most transient group of all, the foreign diplomatic corps.

For the most part, the visiting diplomats leave little impression on the mass of Ottawans, except as names in press accounts of formal receptions and the like. Most of them seem too busy observing protocol to see much of Canada during their brief assignments, although this may be a risky generalization. There are certainly some who do manage to circulate and to meet Canadians beyond the usual official circles.

Thus the name Saksena is one of those that will be, or at any rate deserves to be, remembered a long way from Embassy Row. The news last month of the transfer of India's high commissioner to the other side of the globe was received with genuine regret by a good many people who had met, even briefly, this quiet, scholarly man—and also his wife and young daughter, a schoolgirl in New York.

The high commissioner himself made a full-time job of studying Canada and of telling Canadians about his own country, whether in private talks with all sorts of people, or in his frequent public appearances. He was always ready to discuss the problems facing India without minimizing their immensity, including such touchy questions as "family planning."

Such contacts as these are important. To the extent that he has helped Canadians understand better the outlooks and objectives of his own government, Mr. R. R. Saksena has put his three years in Canada to good use. For it is necessary to know as much as possible about the purposes of those who at present guide the destinies of the sub-continent. No less than any of the great powers of the East and West, India can play a perhaps decisive role in the unfolding drama of international politics.

This is why the departure of a diplomat from Ottawa rates a little more than passing notice.

DIPLOMATS and parliamentarians may come and go, but one topic of conversation remains for Ottawans when all else fails—the weather. Even more so than in most parts of the country, perhaps, for the Ottawa Valley, on account of the surrounding topography, seems to offer special



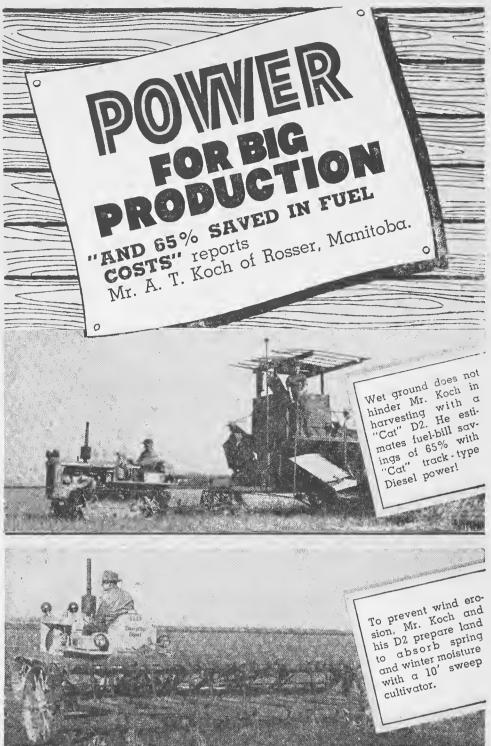
problems to the forecaster. When the local weather office comes up with a wrong estimate, which happens not infrequently, there are loud and indignant comments from the citizenry.

Some of Canada's best meteorological brains are to be found in the national capital, and it must be deduced that there are still gaps in the rapidly advancing science of weather forecasting. As for weather control, this is something about which the professional meteorologists are still more cautious. The layman assumes that science is going to be able to perform magic tricks with the weather; and this summer has brought forth more than the usual number of speculations about cloud seeding and the like.

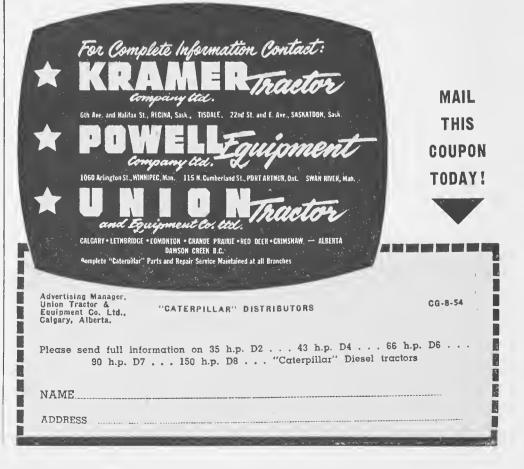
The professionals, here as elsewhere, aren't so sure. Cloud seeding, whether on a local or more ambitious scale, is still highly experimental. Most meteorologists, though their eyes may be on the clouds, have their feet on the ground.

It has been pointed out that even if man learned how to monkey with the weather in the grand manner, the results might not always be to his liking. Take, for example, one recipe for changing the climate of southern Canada for the better through warming the waters of Hudson Bay by means of atomic energy. As far as Canada's meteorologists can tell from their present knowledge, the effect (if any at all) would be to increase the total amount of precipitation in the form of snow-not rain-and to bring on a new ice age. This is not quite the desired result of such an experiment.

India's last high commissioner to Canada, Mr. Saksena, would be astonished that any Canadians wanted to alter their weather materially. As one accustomed to sweltering and enervating heat for weeks and months on end, he used to speak of central Canada's climate, including its rugged winters, as among its chief



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Six Men And \$53

How they came to be 1,500 persons and nearly a million dollars is the story told here

by HAROLD BALDWIN

BACK in 1941, six citizens of the Swift Current district, in Saskatchewan, launched the Western Savings and Credit Union Limited. Their capital amounted to \$53! At the thirteenth annual meeting of this Credit Union on April 7, the assets amounted to just under one million dollars. Predominantly a farmer-wage-earner - salaried - person co-operative, the business acumen shown by the men and women who have steered its business through 13 expanding years would do credit to the officials of any chartered bank.

Despite the semi-stagnation of the movement of western grain, and this district is still a grain-growing area—in spite of recent oil developments—the Western Savings and Credit Union Limited increased its business, added 411 new members, and moved into business premises the equal for convenience, situation and up-to-date equipment, of the other banks in this fast-growing city.

In 1941 and 1942, the business premises of this credit union consisted of a teller's counter in a partition of a corner garage. In its home of 1954, a new vault has been installed with a veritable nest of safety deposit boxes.

Figures, unless one is directly concerned with what those figures represent, can be dry as a drought year. Nevertheless, a few figures concerning this Swift Current co-operative should be of some interest.

Up to the end of 1953 there were 1,565 members, 210 of whom are children and adolescents whose accounts amount to over \$16,000.

Share holdings more than doubled in 1953—by \$419,000. Since that humble beginning in 1941, involving six men with \$53, this credit union has lent \$1,730,000. It has invested \$243,000 in bonds.

Now it should not be forgotten that the officers of a credit union, elected by their fellow co-operators, receive no remuneration for their work on the union's behalf. Yet, officers of the Western Savings and Credit Union held 24 meetings last year-to pass on loans. Many a meeting found their lights on in the small hours of the morning, as they wrestled with their liking for a good fellow, against his indifferent value as a business risk. Quite often they went out to the tip of a limb to bolster a borrower in a tight, financial squeeze. Rarely has their confidence in a borrower been misplaced. Already, of the \$500,000 loaned to 5,999 borrowers in 1953, over \$300,000 has been repaid. Farmers accounted for \$166,000 worth of these loans; merchandisers \$53,000; other citizens \$290,000. Round figures, of course.

For the purchase of homes, the Western Savings people advanced over \$204,000 to 110 house builders. Builders—because these borrowers do their own building. Under the present conditions of the housing situation in

Canada, these people would have had little chance of building and owning their own homes. In short, the credit union advanced the money, the potential home owners supplied the labor. No other agency in this city has done more to relieve the housing shortage than has the Western Savings and Credit Union Limited.

Other loans were advanced for land payments, machinery, livestock, trucks, consolidation of debts, seeds, oil, harvest expenses, taxes, insurance, medical, dental, hospital, food, clothing, vacation, furniture, education, and sundry costs.

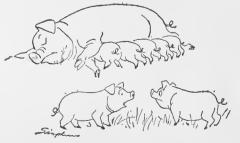
Now there is always the danger of missing some worthy—perhaps the most worthy—worker in any cause, and it is possible that many of those who planted, pruned and grew this \$53 sapling into a still-growing, million-dollar tree, will be missing from this list of workers. However, the list will give an idea of the men and women who built and are still building the Western Savings and Credit Union Limited.

Those who started out with \$53, courage and faith, were: J. Toland, farmer; W. Dafoe (deceased), retired farmer; J. D. Laycock (deceased), druggist; N. E. (Cy) Cowan, business man; Frank Capel, accountant; F. Hanson, newspaper editor — today editor of the Saskatchewan Commonwealth.

Among those who put in many faithful years building up this credit union, and who received special mention at the thirteenth annual meeting, were: William Ellison, retired garage man; J. A. Sinden, farmer and D.V.A. representative, recently retired.

Today we have A. M. Gallagher, president, C.P.R. employee; Gordon Wightman and J. E. Hunter, farmers; Adam Untereiner, elevator agent; Oliver S. Olson, Wheat Pool representative; Chas. H. Hodgson, telegraph operator; Cecil G. Bell, Co-operative secretary; Hubert Cleaver, farmer and garage operator; Norman Amundson, railroad baggage man; Tom Stansfield, railroad employee; Harry Wilson and Hedley Dunn, farmers.

Last and perhaps the most remarkable, Mrs. J. P. Allen, secretary-manager of this credit union. Mrs. Allen combines with an attractive personality, a knowledge of hard-headed business, co-operatives and human nature invaluable in a job like hers. Where co-operators foregather Mrs. Allen is generally around.



"Heck, no. I've been around the other

Xmas Shop Along The Saskatchewan

You might be surprised at what you can find, with the aid of patience and perseverance

by DORA E. DAVIES

THOSE of you who live in the prairie provinces, anywhere near the banks of the Saskatchewan River, have a fascinating and profitable hobby within easy reach, that will fill any spare hours you may have this summer and fall. If you wish, you can do all your Christmas shopping along the river bank. Best of all, you will find yourself money ahead by the time Santa Claus whistles up his reindeer, instead of dreading the extra expenses of the festive season, as so often happens.

Our Saskatchewan River valley abounds with gems and gold that are just lying waiting to be picked up by people with observant eyes and active hands.

How about a nice paper weight for Uncle Willie this Christmas? Chunks of petrified wood are common along the banks of the Saskatchewan, particularly during the season after the high waters have receded. A nicely marked piece of petrified wood, washed and polished with a soft cloth, makes a distinctive and attractive paper weight. What you perhaps did not know, is that petrified wood will cut and polish to form beautiful gem stones for both men's and women's rings, that will vie with the loveliest tigerite.

During your search for petrified wood, you may come across a beautiful piece of "agatized" wood. Agatized wood is petrified wood that has formed into a solid shining crystal-like mass. It can be cut and polished into stones for rings, that will rival the choicest onyx. Best of all you will find that it is not expensive to have your loveliest finds cut and polished by a lapidary, into whatever size and shape you desire.

Have you ever heard of chalcedony agates? Well, whether you have or haven't, they abound along the Saskatchewan's banks. Look for pebbles about the size of a boy's marbles, though of course not so well formed spherically. These chalcedony agates are a dull, brownish red on the outside, but when cleaved for polishing they gleam with the lovely pale honey colored lights of moonstones.

River garnets are not unusual, if a bit more difficult to find. You must dig in pools of still water, which normally are well covered when the river is high, or else along the downstream side of sandbars. Saskatchewan River garnets are a rich deep rosy wine color and although small (five millimeters being a good size) are almost flaw free. The flaws and weak spots have been rubbed and broken away over the years, by the constant washing of water and rocks against them.

WHETHER or not your search for Saskatchewan jewels is a success why not try a little gold panning? The gold found in our river is known as flower gold, and is a very, very fine and very bright yellow in color. All that the amateur gold prospector needs

is a shovel, a piece of heavy mesh screening, a tin washbasin, and a small quantity of mercury.

Shovel your wet gravel onto the mesh, which is resting over your washbasin. You will have to move a great many shovelfuls of gravel over the screening before there is any noticeable residue in the basin below. When you have put in a good day's work pour your mercury into the residue in the basin, swilling it well over and through the silt-like findings, so that you pick up all the gold particles hiding there. Then pour the mercury back into its bottle. Repeat the process, using the same mercury, on each lot of pannings you sift. When you have run the mercury through a dozen such pannings, you should have enough gold for a small nugget. Carefully squeeze the mercury through a piece of fine cloth, an old pocket handkerchief will do. You will find left in the handkerchief a small muddy greyish lump of residue. This is your nugget, if you can be patient a little

Carefully transfer it to a piece of metal (an old coffee can lid is fine) and apply as much heat as possible directly under it. Placing the coffee can lid over a gas burner on the kitchen stove will work fine. The mercury and other moisture is burnt out by the heat and you will be left with a little, prickly gold nugget, that resembles a miniature dandelion, and which will well repay you for any blisters you may have acquired from shovelling gravel.

These little nuggets, depending on size, can be made into attractive rings, tiepins, or earrings, by your local jeweller, or have alloy added to them and be converted into settings for your river gems.

You may, of course, sell them to a jeweller for cash if you wish, and remember, gold never paid a better price per ounce than it does now. Think you might try it? Yes? Well, here's wishing you some happy and prosperous treasure hunts along the banks of the Saskatchewan River this season.



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NEWS OF AGRICULTURE



One of four plants operated by the Minnesota Farm Bureau Service Company. This one is located at Moorhead.

Grain Floors

INITIAL grain prices for wheat, oats and barley were announced by the Minister of Trade and Commerce at Ottawa on July 16. They are the same as last year, namely \$1.40 per bushel for No. 1 Northern wheat, 65 cents per bushel for No. 2 C.W. oats, 96 cents per bushel for No. 3 C.W. sixrow barley, basis Fort William-Port Arthur and, for wheat only, including Vancouver.

In the United States, where the wheat price is supported at 90 per cent of parity as determined under the Agricultural Adjustment Act as amended by the Agricultural Acts of 1948 and 1949, the minimum national average support price was announced October 8, 1953, as \$2.20 for the 1954 crop. This minimum is based on the forward pricing provisions of the 1949 Act. The Act provides that if the wheat parity price of July 1, 1954, is higher than the \$2.45 parity price of August, 1953, which is used to determine the 90-per-cent-of-parity minimum support price, the latter must be increased proportionately. Consequently, the U.S. Department of Agriculture announced early in July that the national average support price would be \$2.24 per bushel. Actually, the support price varies within a range of about 80 cents per bushel, depending on the location of the county in which it is produced. Specific rates are announced for market terminals and for about 3,000 wheat-producing counties. Prior to the July adjustment the county rates ranged from \$1.64 to \$2.48 per bushel without taking into account adjustments up or down for grade and quality.

Rain And Flood

IT seems certain that, in addition to voluntary reduction of wheat acreage in the prairie provinces this year, there will be a substantial additional involuntary reduction due to excessive rain and flooding.

Recent rainfall totals for this season are not available as this is written, but between April 1 and the end of the third week in June, many points in Manitoba which would normally have had three, four, or five inches of rainfall, had recorded from six to more than ten inches. The same existed in the eastern portion of Saskatchewan, but seems to have been less pronounced in Alberta and the western part of Saskatchewan.

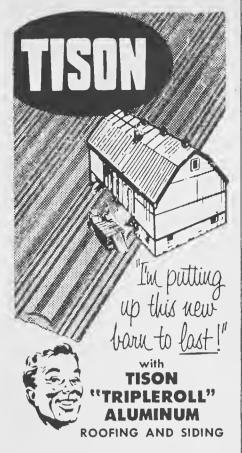
Flooding has also been responsible for inundating thousands of acres of prairie crop land. During the month between June 20 and July 20 the high-water level on the Assiniboine River moved from Roblin in the northwestern part of the province near the Saskatchewan boundary to Winnipeg, where it was sufficient, in the words of an official statement, "to raise the stage at Winnipeg about four feet above normal summer level." This, it was stated, corresponds to about seven feet below first flood level in the Greater Winnipeg area. Other rivers flowing through Manitoba, the Saskatchewan, the Souris, and the Winnipeg Rivers, were each much above normal and considerable flooding occured where streams and rivers carried excess waters through relatively flat land.

As a result of late crops, due to the cold, wet spring and continued rainfall, weeds have become an unusually serious problem. The danger of early fall frosts still to be faced could seriously affect the grade of this year's crop.

A trip by air early in July from Winnipeg by way of Brandon, Yorkton, and Regina, revealed a situation that was anything but promising in the eastern part of the prairies, and particularly in Manitoba. It was impossible from a height of six or seven thousand feet to form any accurate opinion of the state of the crops seen below, but an attempt to estimate the percentage of individual summerfallow areas which carried dark areas suggesting wet land or unusually light areas, suggesting that the land had been flooded, signified anything but a pleasant prospect. Sown fields that were yellow, or perhaps yellow at one end and tapering off to nothing but bare ground at the other, added nothing to the prospect of a crop. One remembered the "miracle" crop of 1949, but the prospect of another one within five years seemed rather remote.

British NFU's Marketing Livestock

SINCE July 1 when the British Government dropped controls on meat which had existed for 14 years, the three National Farmers' Unions of England and Wales, Scotland, and Northern Ireland, have joined in the operation of a commercial livestock marketing organization known as the Fatstock Marketing Corporation Ltd. This organization expects to handle livestock at the rate of a million cattle units (one mature beast or two pigs or five sheep or three calves or one



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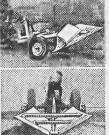
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NEWS OF AGRICULTURE

sow or boar) per year. No reports on the operation of the Corporation have yet been received, but it was expected to market about one-fifth of Britain's supplies of fresh meat on a deadweight and grade basis-corresponding in Canada to rail grading-and to provide an alternative to the sale of market animals by auction. Without counting bacon pigs, the Corporation expected to do a volume of 60 million pounds per year and expected also to handle 95 per cent of the bacon pigs going to the bacon cures, which would probably increase the Corporation's volume by an additional £40 million. The number of pigs going for bacon curing would be not less than 4.5 million during the coming year, and if all came within the Grades A, B and C, would be worth a total of £95 million to producers. The Corporation will trade both with members and non-members, and any producer may become a member of the Corporation by registering and paying a subscription of five shillings.

A regional organization will be set up to serve main producing and consuming areas. Carcasses marketed through the Corporation will bear a distinctive mark and the Corporation, by arrangement with the Ministry of Food, will administer the price guarantees of the 1947 Agriculture Act.

The Corporation will buy and slaughter cattle, sheep and pork pigs, pay producers on the basis of dead weight and grade, and sell the meat to the trade. The amount farmers will receive will also be subject to guaranteed minimum government prices, plus any bonuses (patronage dividends) based on the number and quality of animals supplied.

The Economist (London) regards pigs as the test case, saying that "Surprisingly, pig production has become, next to milk, the largest . . . branch of British agriculture," adding that the value of pig sales last year exceeded the combined sales of cattle and sheep. The guarantee of pig prices last year cost the British government £48 million, a product guarantee exceeded in costliness only by milk. \vee

1953 Implement Sales Down

FOR the first time in more than ten years, sales of new farm implements and equipment declined in value last year. Sales of repair parts continued to increase.

At wholesale prices, new implement and equipment sales last year totalled \$238,050,000, down five per cent from 1952. Sales of parts amounted to \$31,819,000, up nearly \$600,000 from 1952.

Sales in Saskatchewan and Newfoundland alone were higher last year than in 1952, Saskatchewan having increased to \$80,354,000 from \$75,-860,000 the previous year. Newfoundland increased to \$282,000 from \$254,000. Alberta followed Saskatchewan with \$51,303,000, a little over \$2 million down from the previous year; and Ontario is next with \$45,443,000, or \$6 million down. At \$28,030,000 Manitoba was down \$3.5 million. British Columbians bought \$4,509,000 worth of implements and equipment, which was down over \$500,000.



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- Lowest Price—Highest Trade In
 *Optional at extra cost

Get It At a Glance

At the beginning of 1954, 162 Manitoba credit unions had 46,467 members, or 12 per eent more than in the previous year. Total assets at \$11,-038,964 were up 31 per cent; loans at \$9,127,828 were up 36 per eent; share eapital at \$6,616,588 was up 35 per eent; and total deposits at \$2,869,018 were up eight per cent. There are now four eredit union supervisors attached to the Co-operative Services Branch of the Manitoba Department of Agriculture and Immi-

Six out of every ten people in the world live on farms and depend on agrieulture. In Asia and Africa the figure is seven out of ten, and in North America, two out of ten.

Britain exported breeding animals last year valued at £6,563,000 to 48 countries. Exports included 2,889 eattle, sheep and pigs, which compared with 1,013 for 1952, and 1,322 in 1951. Pig exports increased from 193 to 1,273, mainly because of the export of 1,075 Large Whites to Yugoslavia. Of 41 Suffolk sheep exported, 29 came to Canada, as did 513 cattle. The latter figure compares with 420 to the United States, 138 to Argentina, and 131 to South Africa. Beef Shorthorns exported numbered 757, of which Canada took 406 and the United States 206.

At Minnedosa, Manitoba, in June, Ameriean foul brood was discovered in eight eolonies of bees owned by one beekeeper. This was the first outbreak in four years.

The average Canadian hen laid 16.8 eggs in May to produce a total of 36.2 million dozen, or 5 million dozen more than the year before. Heaviest producing hens were those in the Maritime Provinces where Prince Edward Island, with only 504,000 layers averaged 1,964 eggs per hundred hens, exeeeding Nova Scotia by only six eggs and New Brunswick by 84 eggs. Ontario with the most layers (9,614,000 out of 25,253,000) was fifth in number of eggs per hundred hens. Ninth and last on the list was Alberta with 1,572 eggs per hundred and next to the last, Manitoba with 1,575. Saskatehewan, with 1,667 eggs per hundred hens, was slightly below the national average of 1,675.

New Zealand meat exports during the eurrent year are expected to amount to 875 million pounds, eareass

In Toronto on June 26, 15 wholesale and allied firms occupying the old St. Lawrenee Market district in Toronto moved to the new \$4-million-dollar Ontario Food Terminal in Etobieoke Township. The group included 36 produce firms and eorporations, as well as brokers, banks, railways, government inspection services, and supply eompanies. The new terminal provides space for modern farmers' and truckers' market to aceommodate 400 trueks.

A round-up of interesting items from far and wide of concern to farmers

The Farmers' Union Central Exchange at St. Paul, Minnesota, reports that 1953 was the most sueeessful in any of the 23 years of operation. Total sales amounted to \$50.4 million; net savings to \$5.1 million; price adjustments in cash (patronage dividends) over \$1 million; and capital stock retired for cash, \$2 million.

Three Landrace litter sisters averaged £759 10s each at a British sale to top the previous high price for a single gilt of any breed, of 700 guineas, paid two months ago, also for a Landrace. The top price for one of the three was 800 guineas.

Stocks of butter in nine Canadian eities on July 1 were estimated by the Dominion Bureau of Statisties at 48.7 million pounds, or 7.3 million pounds more than July, 1953. A year ago stocks in these cities were 68.5 per eent of total stoeks in Canada, which would mean approximately 70 million pounds of butter in stock on July 1 this year in addition to butter "in

John Ignatius, Seven Persons, Alberta, was reported by the Lethbridge Herald as having been the first person in the Medieine Hat district to irrigate land from the waters of the St. Mary-Milk Rivers Development, when he irrigated a field of alfalfa on his farm on May 28.

A new record price for beef breeds in Australasia was recently set at the Sydney Royal Show when South Boorook Brimfield by Vern Milton and out of Clara Vern 18th, and a great grandson of the great British Hereford Vern Robert, was sold for 6,700 guineas. His sire was bought for £2,500, and as junior and grand champion at Sydney in 1947, his owner refused £10,000 for him.

Professor A. V. Mitchener, Department of Entomology, University of Manitoba, reports more than 30 species of mosquitoes among the natives of the province. It seems eertain that all 30 species were multiplying this year and prospering after the fashion of mosquitoes.

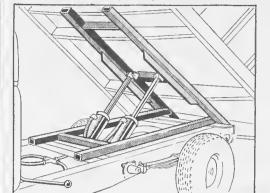
It cost more than three times as much last year to market farm-produced food products as it did in 1932 in the United States. Not only was much more food handled and more marketing services rendered, but eosts per unit of labor, plant equipment, mechanieal power, and supplies were higher. Direct labor costs were more than four times as great as in 1932 and accounted for about 53 per cent of the total marketing bill.

The International Co-operative Alliance, according to a statement issued by the Co-operative Activities Branch of the Alberta Government, represents 64 affiliated organizations in 35 eountries. Membership includes 378,500 local and regional societies and almost 117 million eo-operators and their

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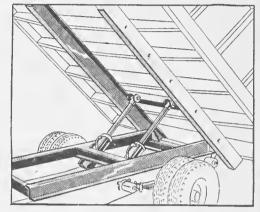
Model "B"



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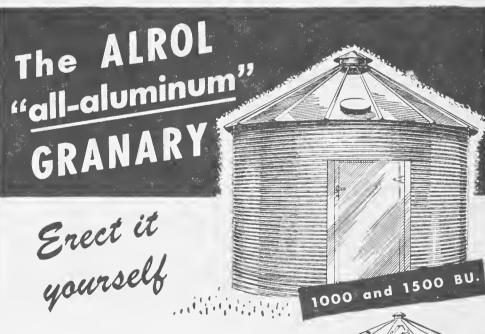
- The precision built, Vickers Balanced Vane-Type, Hydraulic "Powerpack" Pump (which lists at \$118.00, F.O.B. Detroit) is driven from the Power Take-Off on both models and is included in the price of the hoist.
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It is recommended that the granary be erected on wooden flooring laid over 4" x 4" skids so that it can be hitched to tracfor or team and towed from one location to another.

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Dairy cows mean daily chores, but mean a steady income too.

Tank Trucks Reduce Costs

With better roads, and improved refrigeration equipment on farms, they may soon be in wider use

SEVERAL dairy farmers in British Columbia have installed farm cooling tanks for their milk during the past year. They have entered into contracts with a milk hauler who provides an insulated tank truck to deliver the milk to Vancouver, and have thus become the first in the Canadian west to try this system, which is intended to reduce the cost of handling milk.

Although the general manager of the Fraser Valley Milk Producers Association, A. H. Mercer, points out that installation of this equipment on British Columbia farms is not on the increase because of the cost to the producer and the necessity of the hauler having to leave the highway to pick up in the farmyard, dairymen in Winnipeg are beginning to take an interest in the system. Already one dairy has sent literature to some of its shippers explaining how the system works, and the kind of equipment required. A dairy in Oshawa, Ontario, has put its first tank truck on the road, and now several other dairies in that province have made plans to acquaint their producers with the idea and obtain trucks for their pickups.

The system is said to have started in California in 1939. It has spread so rapidly there that the city of Los Angeles gets 100 per cent of its milk supply by tank truck. It is said to be so economical of labor right on the farm, in eliminating the heavy work of handling milk cans, that two men can handle the milking of as many as 400 cows.

The Winnipeg dairyman who is interested in the tank system, agrees with Mr. Mercer, that several obstacles have to be overcome before the idea gains acceptance in western Canada. Farmers who wish to make use of it may have to modernize their milk house, and will have to install a farm cooling tank. They will need equip-

ment to pump the milk direct from the milking machine to the tank, immediately it comes from the cow. Total investment for them may come to \$2,000 or \$3,000 each.

But with this set-up, the milk is cooled quickly on the farm before bacterial growth starts, and remains fresh until the truck picks it up.

For the dairy, it means the considerable cost of buying a farm pick-up tank. The milk is tested and measured in the farm tank, when the truck comes to pick it up, and then is pumped directly in with the milk which has already been collected.

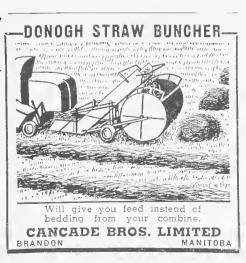
Road conditions, too, must be improved in the Canadian west before the system can be successfully introduced, said this dairyman, for with the pick-up tank, the truck must come right to the milk house to get its load. During winter storms, dairy farmers will not be able to haul their milk to the main highway to be picked up there by the delivery truck.

However, he is confident that these conditions can soon be met, and the advantages of the system gained. For example, the size of the milking herd can be increased by farmers without hiring extra men. There would be no cans to clean, fill, carry to the milk house and lift into the old cooler. Since the milk is almost instantly cooled under this system, and is handled less frequently, it is almost invariably of a higher quality when it reaches the dairy. Since it makes a more compact load for the truck, about twice as much can be carried. Again, since the milk is cooled so rapidly, pickups can be delayed to every second day, where public health regulations permit, to further reduce mileage. These factors all mean savings, and usually result in the dairyman being paid more per 100 pounds for the milk he produces.

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LIVESTOCK

Sheep Make Use Of Grass

As more acres of land are turned into the production of good grass crops, sheep are likely to play a more important part in the farm program. The University of Wisconsin points out that of all major farm animals, sheep can grow, and fatten, or reproduce, on rations consisting of nearly 100 per cent forage better than any other. Good pasture, in fact, is the mainstay of sheep husbandry.

The University says that 80 to 85pound market-topping lambs have been produced with little or no grain fed to them or to the ewes, as long as they were on good pasture.

Good sheep management requires well-bred ewes and rams, good pasture during the growing season, effective parasite control, and free access to pure drinking water.

Summer Pasture From Cereal Crops

A T the Swift Current Experimental Station, cereal crops have produced enough forage per acre, to pasture a mature cow and her calf, or the equivalent, for from 100 to 120 days. These crops have been grown on summerfallow, and Vantage barley and Fortune oats have been the highest yielders, while Ajax oats and Titan barley have followed closely. Wheat and rye varieties have produced less grazing than either oats or barley.

Seeding of these crops was done in May; and pasturing started when the leaf growth was about eight inches tall, and after some 500 pounds of forage had been produced per acre. Oat and barley varieties were ready to graze by June 15, while wheat and rye were ready about ten days later. These crops were grazed by yearling sheep, and by the end of August, wheat pastures were finally producing more meat per acre, than were the other fields.

Swift Current concludes that cereals provide satisfactory pasture from mid-June to mid-October. V

Good Roughage For Milk

How much is good roughage worth in a dairy herd? A survey of 34 farms by the U.S. Department of Agriculture showed that a high quality roughage can reduce dairy feeding costs as much as 20 to 25 per cent. It cost farmers who produced excellent roughage, 46 cents less to produce 100 pounds of milk than it cost those whose roughage was of poor quality. Returns above feed cost averaged \$64 more per cow for those who fed high-quality roughage and less grain.

Here is an example of the type of farm program that was carried on by a man with low feed costs. He fed his cows excellent, well-fertilized alfalfa brome-ladino pasture. A field of second crop alfalfa was pastured later in the season, and he fed his cows about 35 pounds of grass silage daily then, along with a daily ration of grain. During the barn-feeding period, a daily average of 23 pounds of alfalfa-brome hay, 25 pounds of good quality corn silage, and one pound of grain to each four

pounds of milk produced, brought good results.

The farmer with high feed costs had poor pasture and hay crops, he harvested his hay too late, and lost much of its feed value for hay and silage. His corn for silage was not of good quality. During the barn-feeding season, he fed more grain and finally ran short of hay and had to buy still lower quality hay.

Early Calving For Beef Cows

THERE is a real advantage to be gained by having beef cows produce their first calves early, says the beef specialist at the University of Wisconsin. Between the ages of 24 and 28 months, depending on the size of the heifer, is the right time, he believes

Calving early, he says. means that cows will produce more calves in a lifetime. This will mean more pounds of beef and more chance of selecting good animals for the herd. Also, it enables the stockman to evaluate the herd cows earlier.

There is some indication that cows calving as two-year-olds will weigh less than those that calve first at three years. The cows that calve a year carlier will have smaller calves through the third crop, and be smaller themselves for three or four years.

Bang's Withstands Cold

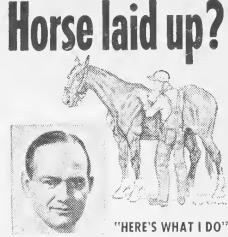
THE disease organisms which cause Bang's disease. Brucella abortus. will live longer outdoors in cold weather, than in warm, says the Wisconsin Experiment Station. This further illustrates the possibilities of germs living through the winter in manure and soil, and stresses the need for good sanitation in fighting this serious cattle disease. It's especially important in winter to bury aborted calves and membranes deep in the soil, covered with lime, if possible.

Tests showed that at 40 degrees below zero, the organisms lived for more than 749 days in milk and lake water, and for more than 620 days in soil. At 100 degrees F. the organisms died after nine hours in lake water, or 24 hours in unpasteurized milk, or five days or less in manure and soil.

Larger Containers For Milk

HOUSEWIVES are accustomed to buying their milk in quart bottles or cartons, but in many markets throughout the United States, this is apparently changing. Gallon and halfgallon containers, in both paper and glass, are gaining acceptance in many places. It is reported that in Chicago more than 60 per cent of all milk sold is in the larger containers. Although more of them are being used in the West than in the East, a few eastern markets are trying them out.

The half-gallon jug seems to be the most popular, for it is much more convenient to handle than the gallon container. These containers, larger than the quart size, are being tried out as another method of reducing the cost of distributing milk.



says Norwood Andrews, of Moorestown, N. J.

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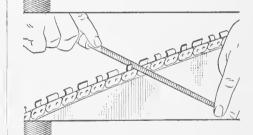
There's nothing like Absorbine for lomeness due to strains, puffs, bruises. Absorbine is not a "cure-all" but a time-proved help in relieving fresh bog spovin, windgall and similar congestive troubles.

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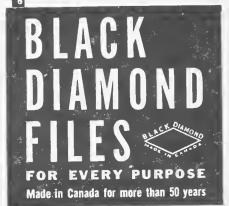


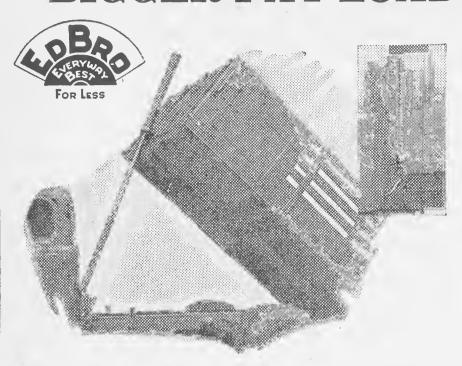
Chain saws require very different sharpening files. The manufacturers of Black Diamond files have pioneered in developing exactly the right types of files for chain saws.

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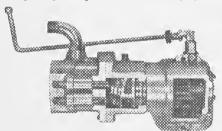
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races reduce friction losses to a bare minimum. The six pistons are case hardened and precision ground. Absolutely no cylinder wear because pump action is supported by thrust races. Pump is combined with power take-off, bolting directly to the truck transmission. All moving parts are immersed in oil.

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CANADA

FIELD



Prompt swathing will often be responsible for an important reduction of loss through sawfly depredations.

Winter Wheat Acreage Increasing

With the seeding season for winter wheat approaching some consideration should be given to this crop

THE aereage devoted to the growing of winter wheat has increased sharply in southern Alberta over the past two years, and this year reached record proportions.

In areas where it can be grown, winter wheat has some advantages over its spring-seeded relatives. The fact that it is seeded in the fall and harvested carlier than spring wheat, allows a better distribution of the year's work. Where it can be grown successfully it gives useful protection against winter and spring soil erosion. It often outyields spring wheats, and it will compete successfully with wild oats.

The failure to use recommended varieties is more serious than with spring wheat. Improper cultural practices and unsuitable varieties can result in a total crop failure.

There is still a great deal to be learned about cultural practices, and earlier varieties are needed. At present the best varieties are Kharkov 22 M.C. and Yogo, says J. E. Andrews, Lethbridge Experimental Station, Alberta. They have sufficient winter hardiness to have a reasonable prospect of surviving the winter.

Winter wheat must be seeded into a firm seedbed which is free from volunteer wheat plants, and wheat in adjacent stubble should be destroyed at least a week before seeding starts. If this is not done there is a greater danger of infection by wheat streak mosaic. The Science Service Laboratory at Lethbridge reports mosaic in 80 per cent of the winter wheat fields inspected, with 20 to 25 per cent moderately to severely infected. Infected winter wheat fields can infect spring wheat.

Seeding shallow into a firm seedbed results in rapid growth, giving a vigorous type of plant which has an improved prospect of surviving the winter. If the land is dry, a furrow-type of drill is useful to move the dry soil

aside and place the seed on moist soil without covering it too deeply.

The recommended date of seeding for Alberta is during the first two weeks of September. Wheat crops that were severely damaged with streak mosaic last year, but in which the owners eliminated all volunteer wheat and did not seed before early September, produced a crop that was almost free from the disease this year. Earlier seeding also increases the danger of crop losses due to root rot.

New Drought-Resistant Wheat

A NEW wheat ealled Lake, developed by crossing Regent and Canus at the Experimental Station, Scott, Sask., was licensed this spring for sale in Canada.

This variety yields well under dry conditions, and is expected to be particularly valuable in southwestern Saskatchewan and southeastern Alberta. During the period 1947-53, it outyielded Thateher, 20.4 bushels per acre to 17.5. It does not possess resistance to Race 15B rust, and is consequently not suitable for Manitoba or eastern Saskatchewan.

Lake, with good milling and baking qualities, is eligible for top grades. It is resistant to bunt. It has the best frost resistance of any present-day wheat variety. Compared with Thatcher, it is taller but has equal straw strength. It threshes more easily, but is equally resistant to shattering, and it is about one day later in maturing. The kernel of Lake is large and bright, and does not shatter readily; and the head is of the Marquis type, with hairy ehaff.

Initial distribution of seed took place this spring, but no seed is currently available for general distribution. A. G. Kusch, senior cerealist at the Scott Experimental Station, reports that foundation seed stocks were allo-

cated by the Canadian Seed Growers Association to four elite growers in western Saskatchewan; surplus foundation stocks are being increased at the Scott Experimental Station for distribution in 1955.

Gasoline Losses From Storage Tanks

OSSES of gasoline from evapora-Lition through vents of gasoline storage tanks, can run as high as ten per cent in a month, if the tank is exposed to the uninterrupted heat of the summer sun. The more volatile gas is lost, and that which remains has an increased gum content and starts the tractor less readily than gasoline that has suffered no evaporation.

These losses can be cut down by shading the tank. Placing it under a tree will help. So will putting it in a building, but this should be avoided, because it will increase fire risks and void fire insurance policies. A pressure valve on the tank vent will reduce evaporation, by allowing pressure to build up to two or three pounds per square inch before releasing the pressure.

The best place to store gas is in underground storage tanks, says S. L. Vogel, North Dakota Agricultural College. A good quality tank, well coated with waterproofing material, will last long enough to justify the labor of burying it.

Preserving **Malting Quality**

FAULTY harvesting practices may be responsible for the failure of barley to reach malting standards.

Malt is made by germinating barley under artificial conditions, to develop digestive enzymes within the kernel. For this reason, all cultural practices, and especially harvesting practices, should be directed toward the production of a sample having a high and even germination. Kernels that are skinned, or broken during threshing are of very little value to the maltster. Germination either will be low, or the small sprouts easily broken when they germinate, and growth and enzyme development arrested.

Good color and even maturity are other indications of good malting barley, says the Experimental Farm, Brandon, Manitoba. A bright, strawcolored barley invariably indicates that it was handled under good conditions, has not been weathered, and is free from disease. Even maturity assures even germination, and the crop should not be harvested until it is completely

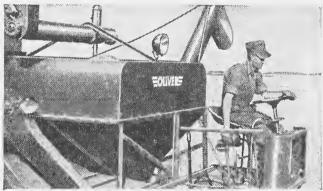
Stooking immediately after the binder, or combining as soon as the grain is in condition, will reduce weathering and shrinkage. Low germination during the malting process is commonly due to the effects of weathering.

Correction:

In the June issue of The Country Guide the statement was made in this department that green foxtail in flax crops can be killed in its early stages by the application of three to five ounces of TCA. This, of course, should have read three to five pounds.



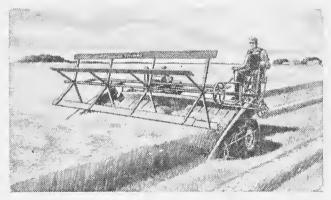
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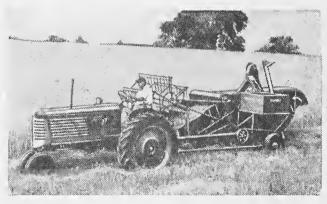
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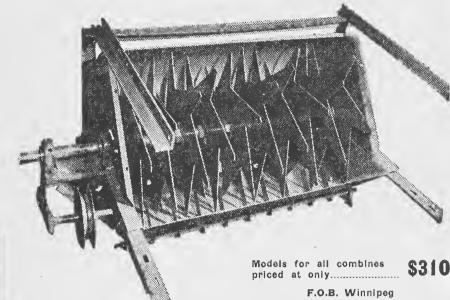
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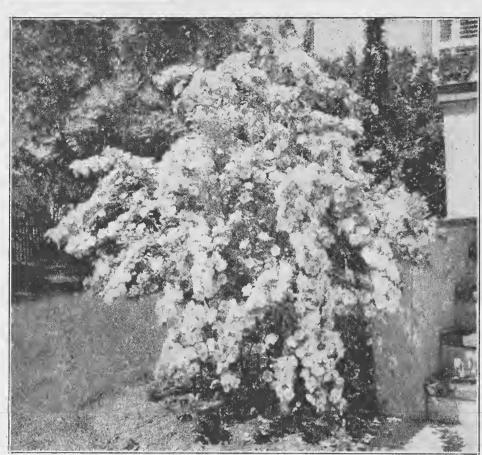
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HORTICULTURE



An Altai rose carrying a remarkably heavy load of flowers at the end of June, in Winnipeg. Unfortunately, the petals soon drop.

Order Now For Fall Planting

Woody and herbaceous plants should be ordered early and fall planted, or heeled-in for spring planting

A LARGE number of perennial plants, both herbaceous and woody, that are intended for the home grounds, or for orchard planting, can often be purchased in the fall to advantage. Nurserymen are sometimes able to give customers a better selection in the fall, because they are less rushed than in the spring; and it also means sometimes that the plants are certain to be dormant and can be set out under more favorable conditions.

When ordering plants at any time, try to make sure that you select varieties known to be adapted to your local climatic and soil conditions. In other words, it is better not to experiment with tender or semi-hardy varieties, unless you do so with your eyes open and for the fun of it. In nearly all parts of the prairies you can get lists of recommended varieties from your nearest experimental station, your provincial university, or your agricultural representative (district agriculturist).

Order this month, if you can, to give your nurseryman a chance to serve you to the best advantage. Woody plantsshrubs and trees-are usually dormant by early October, and when they arrive, heel them in as promptly as possible in a well-drained location, to be planted permanently in the spring. To heel in, make a furrow or furrowlike trench and lay the plants in on a slant with the roots toward the land side, spacing them just enough so that the earth will fall in closely against all of the roots and thoroughly exclude air. Cover well with earth; water thoroughly to work the soil still more among the roots; a little later firm the soil thoroughly; and cover with loose earth. Small plants may be set out in permanent locations in the fall, and if

necessary, those of medium size. Large plants should usually be avoided because they may require severe pruning when planted.

Bulbs may be planted from late August in the Peace River area of Alberta to early October, and a little later in the more southern parts of the prairies. This includes such plants as fritillaria, narcissus, squill and tulip, as well as flowering onions and chives. Peonies are preferably planted in September. Herbaceous perennials, such as oriental poppy, Solomon's-seal, and iris, as well as the mountain anemone, are better planted in August in northern districts.

J. A. Wallace of the Beaverlodge Experimental Station, Alberta, recommends that all evergreens be planted in spring, or from late August to early September. Great care must be taken to prevent even the slightest exposure of the roots of evergreens to sun or air. As a result all evergreens over a foot in height should be balled and covered with burlap during the transplanting operation. At this time, too, the covering should be kept wet.

Late September and early October are satisfactory for planting currants, gooseberries and raspberries, as well as most smaller trees and shrubs. All of these may also be planted in the spring, but plants over four feet in height are better planted in the spring, according to Mr. Wallace.

Occasionally, large specimens of trees or even shrubs are moved from one location to another. Such transplantings should be made just after freeze-up, and here are the recommendations of Mr. Wallace for this operation:

"Selected specimens are prepared for moving by severe pruning in late

HORTICULTURE

August. Then, just before the soil freezes, by digging around and under them to leave a ball of soil large enough to accommodate an adequate supply of roots. Following sharp freezing weather when the ball of earth is frozen, the tree may be moved with a tractor and chain, or hoisted onto a truck for transportation. When the transplant is in place, soil should be tramped very firmly about the ball of earth and then watered thoroughly, to provide a strong bond between the root-containing earth ball and the walls of the hole."

A Rainy Season

THIS has certainly been an unusually wet season for most parts of the prairies. Quite aside from the losses in acreages of crop land or losses in yield due to the excessive growth of weeds, gardeners have had their troubles, also.

Weeds have grown in gardens as generously as elsewhere, and about the only people who have really found much satisfaction in the present season up to early July have been those who have seeded new lawns, or reseeded spots in established lawns that were killed out last winter. This writer had some of the latter type of seeding to do this year, and looked forward rather grimly to the prospect of making daily visits to these reseeded spots with a hose, for a week or two, until the seed germinated and the grass began to show well. Fortunately for him, and others in like circumstance, after one or two preliminary rounds the rains came along with sufficient frequency to bring the new grass along in fine style. To twist an old saying around, one could say that what has been poison for many people this year has been food for others. Indeed it seems probable that up to the time of this writing at least, the majority of gardeners in Winnipeg and vicinity have not found it necessary to water their gardens at all.

Visit Your Experimental Station

HOW long has it been since you last visited your nearest experimental station or university farm? Horticulturists can get useful information that would well repay a trip to any one of these institutions. They are well distributed over the four western provinces, and almost every farm in western Canada is within reach of one of these places without inconvenience.

In British Columbia, there is the experimental station at Saanichton, on Vancouver Island, the University farm at Vancouver, the experimental farm at Agassiz in the Fraser Valley, the experimental station at Summerland in the Okanagan Valley, the range experimental station at Kamloops.

In Alberta, there is an agricultural school at Fairview, and an experimental station at Beaverlodge, both in the Peace River District. In addition, there is the University farm at Edmonton, agricultural schools at Vermilion and Olds, the Provincial Horti-

cultural Station at Brooks, and federal experimental stations at Lacombe and Lethbridge, as well as an irrigation substation at Vauxhall and a range experimental station at Manyberries.

Saskatchewan, too, is well supplied with experimental stations, at Scott in the northwest, Melfort in the northeast, Swift Current in the southwest, and Regina in the south center. In addition, there is the experimental farm at Indian Head in the southeast, and the University farm at Saskatoon.

Manitoba is a smaller province, but has an experimental farm at Brandon, and the largest horticultural establishment of all, at Morden, where about 137 acres are devoted to horticultural crops.

In addition to all these institutions there are a number of substations and perhaps 75 illustration stations, many, if not all of which, devote some attention to fruits and vegetables.

Soil Fertility In Prairie Orchards

ORCHARDS that have been planted for some time are likely to lose their organic content gradually, especially if they have been given clean cultivation. They are also likely to develop a less favorable physical texture. Under such conditions, the trees will become less vigorous, less thrifty, and less productive.

Soil fertility is closely allied with organic matter content. In the prairie provinces, unfortunately, rainfall is so low that sod culture is generally impracticable as a means of keeping up the organic content of the soil. Cover crops or green manure crops are more satisfactory, although they must be used very judiciously and, as a rule, confined to unusually wet seasons and to vigorously growing young trees. Under such conditions oats, millet, buckwheat or peas can be used, if sown around the middle of July. Where there is sufficient soil moisture throughout the fall, the crop may be left on the ground to hasten the maturity of the trees and to trap snow during the winter. The crop should be disked in, in the spring. If the fall weather is dry, however, and the cover crop must compete with the trees for enough moisture, it is better to plow under the cover crop as a green manure, in late August.

Barnyard manure added to dry-land orchards not only helps to keep up organic matter content of the soil, but also helps to maintain high soil fertility. Light applications are preferred every one or two years. On the other hand, if too much is applied, especially of fresh manure, it will decompose so slowly that it may actually cause harm to the trees. Where manure is not available, substantial quantities of straw or very strawy manure can be used, but here again, the bacteria of the soil use up so much nitrogen in decomposing the straw that they bring about a temporary nitrogen shortage, which has to be overcome by putting on a high-nitrogen fertilizer. This should preferably be 16-20-0, at rates up to 300 pounds per acre, depending on the amount of straw or very strawy manure applied.

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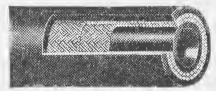
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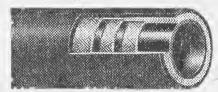
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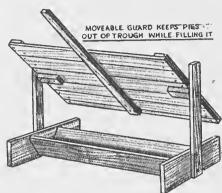
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WORKSHOP

Tips for the Handyman

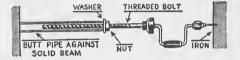
Some of these ideas should save time when, with the harvest near, time is at a premium

Hog Trough Guard. It is often difficult to feed pigs because they crowd into the trough. I rigged a guard, as shown in the illustration, and can



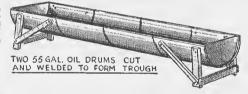
keep the hogs out of the way until I finish feeding. I have the trough close to the fence, and put boards to keep the pigs from crowding in at the back. Bolts or long spikes will serve as hinges at the ends of the guard. -

Home-made Press Drill. Nothing is more tiresome than drilling a hole through iron with an ordinary brace and bit. I made a press drill by threading a bolt and putting a nut on it, and slipping the bolt into a piece of pipe,



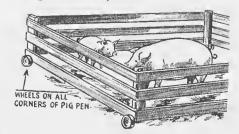
as shown. There should not be much play between the bolt and inside of the pipe, and the pipe must be supported so it will not spring out of position. I butt the end of the pipe against a solid beam. To drill, turn the nut so the threaded bolt is forced against the brace as you turn it, and you can put on as much pressure as you wish. The arrangement can be used in the vertical or horizontal position.-W.F.S.

Oil Drum Feeder. I made a good hog trough by cutting two 55-gallon



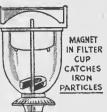
drums in half lengthwise, as shown. I welded them together and mounted them on a wooden stand.-J.I.H.

Tethering Pigs on Pasture. I bolted old wheels to the four corners of a pen and put some pigs in it. On a level pasture they can move it around



and it saves me fencing for a few pigs. As the pigs get bigger, weights are needed to keep them from lifting the side of the pen and getting out. Gasoline Filter Improved. A small

magnet placed in a gasoline filter, as shown, will catch and hold any tiny iron particles in the fuel. This may prevent loss of time spent



cleaning the carburetor.-A.B., Sask. V

Round Form For Concrete. A round form for concrete can be made from light iron (about 28 gauge). Cut the metal to the desired height and



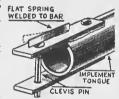
STOVE BOLTS IN 4 IN. OVERLAP

length, allowing about four inches for an overlap, and bolt together as shown, using stove bolts, spaced at inter-

vals of about six inches. (Soldering the heads of the bolts, and oiling the threads, will facilitate removal of the nuts after the concrete has set.) The pressure of the concrete will force the metal outward into an almost perfect circle, without danger of form failure. -O.T., Man.

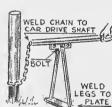
Clevis Holder. The clevis pin will never get lost if you weld a one-foot piece of flat spring to the tongue, as

shown. The spring FLAT SPRING should be raised WELDED TO BA slightly when welding, so that it will clear the head of the clevis. To remove the



clevis bend the spring to one side .-H.E.F.

Post-Puller. For lifting posts we welded a chain and block to a long



shaft and put it on legs which we welded to a flat plate. A grab hook on the end of the chain allows me to wrap the chain around

the post. With a long shaft you can lift a tight post.-T.I.L.

Laying Nests. I have been using these handy laying nests for years.

They cost practically nothing, and have given excellent results. I took big, discarded cans and fastened them together with heavy wire. I put pieces of



the cans with chains. Chickens will use all heights.-W.I.S.

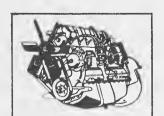
Sealing Pipe Joints. Laundry soap applied to pipe threads will reduce leaking around LAUNDRY SOAP SEALS the threads, and PIPE JOINT will often make threads, not in good condition, leakproof.-O.T., Man.



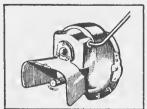
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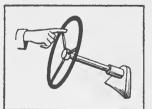
Power flow 273 cu. inch engine



"Live" Power Take-Off



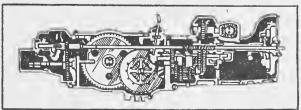
"Live" Hydraulic System



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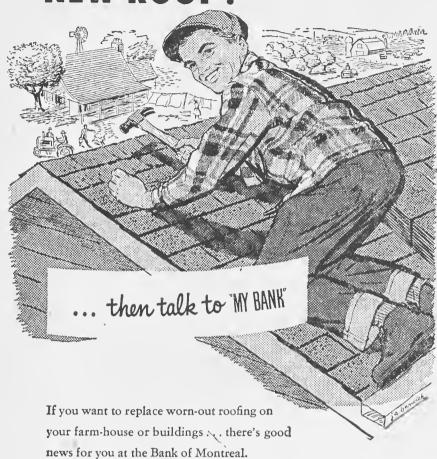






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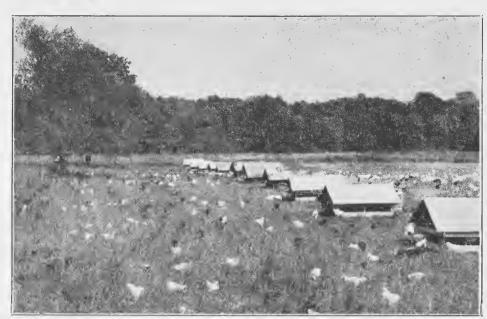
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POULTRY



Birds have a better chance of staying healthy if not exposed to disease.

Keep Eggs Fresh

Heat is the greatest cause of deterioration in egg quality, so gather eggs three times daily in the summer

THE high temperatures and low humidity of the summer months mean faster deterioration of egg quality, if the eggs are not well looked after. The Central Experimental Farm suggests a few simple rules, which will help to maintain egg quality and can be applied on any poultry farm.

Since heat is the greatest cause of loss of egg quality, gather eggs three times a day and cool them quickly. An egg that has been left in the nest all day will be little better, by the time it is gathered, than a three-day-old egg.

Eggs will cool twice as fast in a wire basket as in a pail, or egg case, so these should be used. A storage place that is cool and moist is required, with a recommended temperature of 50 to 60 degrees F., and a relative humidity of 70 to 80 per cent.

The eggs can be cased the morning after they have been cooled, with the large end up. The best time to sell an egg is as soon as possible after it has been laid, which means at least once a week, and preferably more often.

Plenty of nesting space, with the nesting material changed frequently, will reduce the number of dirty eggs. Infertile eggs will keep longer than those that have been fertilized.

Finally, feed a complete ration. This means a good laying mash, scratch grains, oyster shell, or limestone, and plenty of fresh, clean, drinking water.

Feed for Shell Quality

A GOOD hard shell which can resist considerable shock will help the keeping quality of eggs, and any crack or imperfection in the shell results in rapid deterioration of the egg. In the spring, egg shells are often less sturdy than in the winter, for as production decreases, or the bird approaches the end of its laying year, egg shell strength diminishes.

Egg shell quality can be improved in two ways—by selective breeding, and by improving the ration. The former is up to the poultryman supplying eggs to the hatchery, but the latter can be achieved right on the farm.

A lack of minerals and vitamins, particularly calcium, manganese and vitamin D, adversely affects egg-shell quality. Studies at Nappan, N.S., have shown that the source of calcium, as well as the presence or absence of insoluble grit, has an effect on shell quality. Birds fed insoluble grit, as well as clam shells or oyster shells, produced egg shells of superior quality to those from birds fed only oyster shells. The clam shells were harder than the oyster shells, or limestone, and it was concluded that the presence of a hard substance in the gizzard favored the production of better egg shells.

Another study showed that birds fed an all-mash ration produced eggs with stronger shells than did birds fed a grain and mash, or grain and pellet ration.

More Eggs For More Profits

MANY farm flocks would yield more profits if they were larger, and the Guide to Farm Practice in Saskatchewan, says that an efficient poultry unit is 500 unsexed chicks or 250 pullet chicks. In addition, these flocks must be heavy producers in the laying pens. They must make good use of every pound of feed they eat, and pay for every hour of work that they require.

This means the birds must be from stock that will make them good layers. They must be comfortably housed and properly fed and kept free from disease.

Heavy production is the real key to profits. For example, 100 hens laying 60 eggs a day will eat about 27 pounds of feed daily. The same number of hens laying 24 eggs per day will take about 22 pounds of feed per day. In the first lot, a little more than five pounds of feed would be used to secure a dozen eggs, where the second flock needed 11 pounds. Feed costs are said to represent about two-thirds of the total cost of producing eggs.

WHAT'S NEW



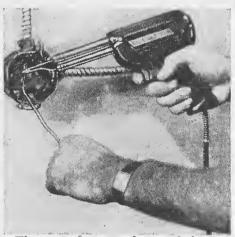
This is said to be the first tractor in the farm equipment industry to be equipped with torque amplifiers. With this new mechanism, the operator can instantly reduce travel speed and increase pulling power in any gear without stopping, de-clutching, shifting gears, or touching the throttle. It gives the tractor five additional forward speeds and one backward. (International Harvester Co. of Canada.)



This pickup is of flexible construction, which makes it suitable for operation in rocky or rolling fields. Two rows of extra-long strong fingers are in contact with the ground at all times, and are said to sweep up all the grain and feed it to the combine. (Innes Company.)

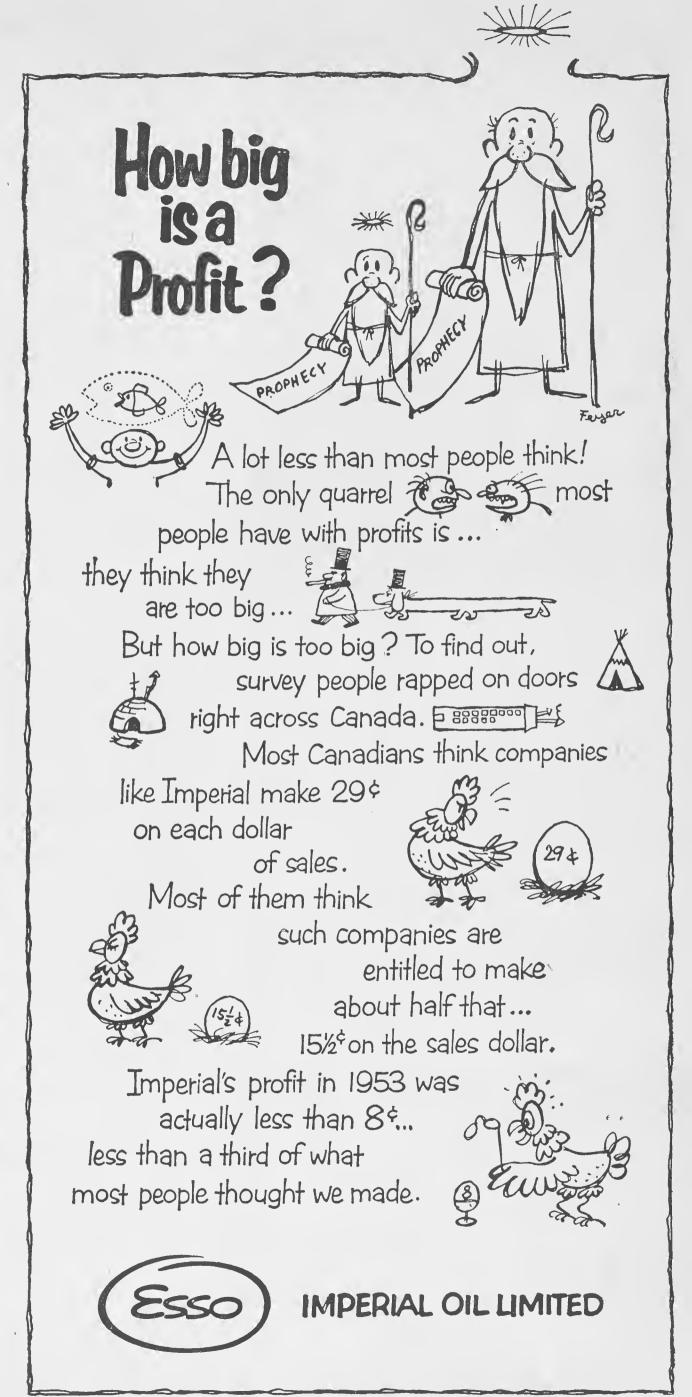


A new 1½-gallon compression sprayer is designed to be safely and easily opened and filled, and suitable for all sprayable solutions. The large eight-inch pump allows build-up of pressure, with just a few strokes. (Hudson Mfg. Co.) (44) \vee



The manufacturer designed this soldering gun for the homeowner and hobbyist to do all types of soldering, such as repairing electrical appliances or patching spouts. (Weller Electric Corporation.)

For further information about any item mentioned in this column, write to What's New Department, The Country Guide, 290 Vaughan St., Winnipeg, giving the key number shown in parenthesis at the end of each item, as—(17).



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Building Products Limited brings you now another distinctive addition to their "Armourized" line of Insul-Ated Sidings. It's INSUL-STONE ASHLAR, designed to add enduring beauty to town and country homes.

INSUL-STONE ASHLAR — in two warm new colours — is a faithful reproduction of natural cut stone. "Ashlar Grey" combines grey with sprinklings of buff, "Ashlar Sand" has the rich, tawny colouring of sandstone. On both, mortar joints are reproduced in a soft grey with a new, narrow Nu-Line - giving a remarkable three-dimensional effect.

New INSUL-STONE ASHLAR is weatherproof, fire-resistant and extremely economical — as are all B.P. Sidings. Its purchase price and application costs are low and it needs no separate insulating sheathing board underneath; it looks lovely for years without repairs, so you save upkeep dollars; and it has the same insulating value as 8 inches of brick, so you'll enjoy substantial fuel savings.

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Initial Crop Payments Unchanged

Initial prices for basic grades of wheat, oats and barley, for the crop year commencing August 1, 1954, will remain unchanged from last year, it was announced in mid-July by Canada's Trade Minister, Rt. Hon. C. D. Howe.

Accordingly, the initial price for No. 1 Northern wheat, basis in store Fort William-Port Arthur or Vancouver, will be \$1.40 a bushel. The initial prices for the two coarse grains, basis in store Fort William-Port Arthur, will be 65 cents a bushel for No. 2 C.W. oats and 96 cents a bushel for No. 3 C.W. 6-row barley. The initial prices on other grades of wheat, oats and barley will be announced by the Canadian Wheat Board following the commencement of the new crop year.

This, with one exception, is the fifth successive year in which the same initial prices have prevailed at the opening of the crop year. The one exception occurred in 1951-52 when there was a slight increase in price of the basic grade of barley, an increase which has been maintained each year since.

While the continuation of the same initial prices will be welcomed by producers, the decision to maintain the price on wheat was quite probably a difficult one for the government. Only a month earlier when the Canadian Wheat Board cut back the selling price by approximately ten cents per bushel, Rt. Hon. C. D. Howe stated at Ottawa that Canada would cut prices again, if necessary to hold her place in the world wheat markets. Possibly officials are now more optimistic about the course of world wheat prices; undoubtedly the government is taking a calculated risk in maintaining the basic

Both Canada and the United States are holding unprecedented stocks of wheat; Australia and the Argentine and a number of lesser producers are in a position to exert varying degrees of influence on the market. There are those who firmly believe that world wheat prices will fall to the International Wheat Agreement minimum of \$1.55 a bushel. If this were to occur early in the crop year it is questionable whether or not the Board could more than break even at an initial price of \$1.40 per bushel.

On the other hand, the government through the Canadian Wheat Board and other sources, must have reasons for believing that the selling price will not fall to the minimum for at least some considerable length of time. Too, crop condition's in Europe are not at a par with conditions at this date last year. In western Canada it is known that a sizeable reduction in wheat acreage-possibly two million acres or more has been caused by adverse weather conditions during the seeding season. \lor

U.S. Subsidy Increase Hinted

A leading American trade journal, the Northwestern Miller, recently reported that U.S. government officials were planning a steady advance in export subsidies on International Wheat Agreement sales and on some non-I.W.A. sales. The report suggested that this plan would be carried forward until the price of U.S. wheat and wheat flour reached the floor price of \$1.55 a bushel under I.W.A.

Prior to the meeting of the International Wheat Council in London last June, U.S. delegates were reported to favor a plan for reducing the selling price of wheat to the I.W.A. minimum. No action was taken by U.S. officials at that time. However, the trade report stated that they now believe a more aggressive attitude should have been taken in order to force a showdown at the Wheat Council sessions. As a new I.W.A. crop year gets underway it is thought that U.S. officials will attempt to move wheat at what they believe to be competitive world prices. A move of this type would be an extension of the previous ten cents per bushel cut in price which forced the Canadian Wheat Board to follow

Meanwhile, the U.S. Department of Agriculture reports sales of wheat and wheat flour totalling 42 million bushels under the special export program for C.C.C.-owned wheat. This figure represents sales from the commencement of the program last December up to June 17 of this year.

Under this special export program government-owned wheat is offered for export sale on the basis of allowances announced each market day. Such sales are not eligible for the export payment under the International Wheat Agreement but represent a special policy designed to increase U.S. sales of wheat abroad.

The U.K. Wheat Trade

The effective leadership of the British grain trade, according to a number of commentators, was mainly instrumental in forcing recent cuts in the price of wheat on this continent. Because she possesses substantial reserves of imported wheat and domestic crops of bumper proportions British importers were able to sit back and contemplate market reactions. While there were many other factors in operation, including those of supply and demand, many observers on both sides of the Atlantic firmly believe that British action was responsible for the price cuts.

Whether this be true or not, financial circles in Great Britain were apparently greatly disturbed by the U.S. and Canadian action in this respect. The London correspondent of the Financial Times (Montreal) describes financial reaction as follows:

"Financial circles here were disturbed y the sudden reduction in the price of U.S. wheat by ten cents a bushel and a reduction of 10% cents by the Canadian Wheat Board. And this was in spite of the fact that the fall in prices would have an immediate beneficial effect on our balance of payments. Stock markets were in the doldrums because of the fear that lower prices for wheat indicated a world-wide slump in prices of primary products, a reduction in farm purchasing power with a consequent fall in exports."

Wheat prices always have been extremely sensitive to various world

COMMENTARY

forces-economical, political and psychological-and for many years their fluctuations have been acknowledged as an indicator of world prices of primary products. The question in the mind of the Financial Times reporter is whether the recent price cut was indicative of a permanent condition. This commentator considered the price cuts not as the forerunner of a slump in the prices of primary products, but as a healthy result of greater competition in the wheat trade.

This view is seemingly a sound one. Keener competition from Argentina was one factor-the entry of a number of small nations into the international wheat trade has been another. In this latter development there is perhaps a warning to producers in the major exporting countries. There is a price level at which it becomes profitable for farmers in normally non-exporting countries to produce wheat for export. When this level is reached one might expect wheat production to increase with resulting competition in the export markets. Although bumper crops in many parts of the world have been a contributing factor there is some indication of increased acreage in a number of the smaller countries. Obviously, we must be prepared to meet such competition in order to protect Canadian long-term interests in the international wheat markets.

In some countries, including Great Britain, during and since the war, domestic production of wheat has been encouraged by high price incentives to growers. Much of the increased production has come from marginal or sub-marginal land and while it has been extremely costly, served to decrease the dependence upon imported grains. This type of competition is difficult to meet. All that can be done is to encourage the confidence of the overseas customer by relatively stable production and sound pricing policies.

There is some question as to how long the taxpayers of the importing countries are prepared to subsidize domestic producers. From the consumer's point of view there are strong arguments in favor of the discontinuing of subsidies. On the other hand, unless alternative types of agriculture are remunerative to the producer, difficulties are immediately encountered. British government officials continue to stress the long-term need for increased home production.

U.K. to Purchase More Canadian Wheat

The United Kingdom has made substantial commitments for shipments of wheat through the Port of Churchill, it was recently announced. While the Canadian Wheat Board has declined to disclose the quantity or price involved, press reports mention an additional quantity of ten million bushels at a price close to \$1.80 per bushel. The wheat will be shipped through Port Churchill commencing at the opening of the Churchill shipping season in late July.

For the period August 1, 1953, to June 1, 1954, Canada shipped a total of 65 million bushels of wheat and wheat flour to the United Kingdom.

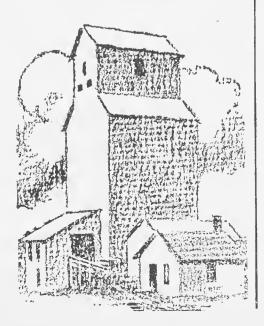
This compares with 88 million bushels in the corresponding period of the 1952-53 crop year.

The United Kingdom is traditionally Canada's most important market for wheat and wheat flour; it is unlikely that any other market will approach that of the United Kingdom within the foreseeable future. In any case it would be unfortunate for Canadian producers if the U.K. market were to decline substantially in volume. Since a price reduction in Canadian wheat has taken place, now would seem to be the appropriate time for the British to step up their purchases of Canadian wheat and flour. Present reserves of gold and dollars controlled by the United Kingdom on behalf of the sterling area are at a relatively safe level and no longer present as formidable a barrier as has been the case for a number of years. The British are apparently anxious to increase their sales of manufactured goods in Canada and certainly it is desirable for them to do so from their own and the Canadian point of view. With some assistance on the part of Canadian distributors, increased purchases of Canadian grains by the British, could materially improve their position in the Canadian consumer market. The time and conditions appear right for increased trade between our two nations.

U.S. Increases Wheat Price Support Rate

The national average support price to producers for the 1954 wheat crop will be four cents a bushel above last year's minimum price, it was recently announced by the U.S. Department of Agriculture. The 1954 crop will be eligible for average support at \$2.24 per bushel compared with the national average support of \$2.21 per bushel for the 1953 crop.

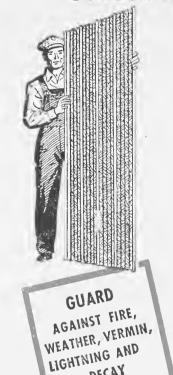
The increase in the price support rate is the result of higher parity price ratio during the month of June of this year. However, it is apparent that the American farmer does not always obtain this high level of support. According to the United States Department of Agriculture the average price received by wheat producers in the 1953-54 marketing year was approximately \$2.04 per bushel. Thus the average price received by the grower was approximately 17 cents below the announced average price.





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FARM YOUNG PEOPLE



The harvest of all the years is symbolized by this picture which combines youth and the product of the fields.

Beef Clubs First On Television

Club members took part in western Canada's first farm television show

OVER 400 members of 4-H beef clubs from all over Manitoba turned out to a Hereford field day at the farm of R. J. McClement, Hayfield, Manitoba, this summer, and a red letter day it was. Over 1,200 people risked the muddy roads and unsettled weather to come out for the program and, for many, to enjoy their first real pit barbecue. Twenty-pound ribs of beef, barbecued to perfection over the red hot coals in the outdoor pit, were carved for the main course and some said the meat tasted even better than was believed possible.

It was a red letter day on another count too, for western Canada's first television station, CBWT, Winnipeg, had a photographer on hand to record the activities. These went on television a few days later, bringing the field day right into the homes of many city families.

Purebreds from the McClement Hereford herd, which has won championships at Canada's major show, the Royal Winter Fair, caught the cameraman's attention, and a foot-trimming demonstration was shown, as well as a talk on judging beef cattle. Then the camera turned toward the pit where the beef was cooking. It showed the roasts being lifted from the hole in the ground, unwrapped, carved, and served to the hungry crowd. The happy 4-H'ers waved to the camera-man, as they gulped the juicy beef, and thus took part in western Canada's first farm television show.

Northern Garden Club

CIXTY miles northwest of Big River, Saskatchewan, is one of the most active clubs in that province. In the district of agricultural representative Don Neilson is the Green Lake Garden Club, with a membership of 94

young people between the ages of 10 and 16 years. Club leader, and assistant, are Sister Lucina and Rev. Father Roderick. Apparently the shorter growing season which confronts these gardeners living further north. only intensifies their determination to have gardens in which they can take pride.

Three Groups In 4-H Family

THREE important groups make up the 4-H family, says the Saskatchewan 4-H News Letter; and each of these are dependent on the other for success. They are the leaders, the members, and the parents, and the job of each is important.

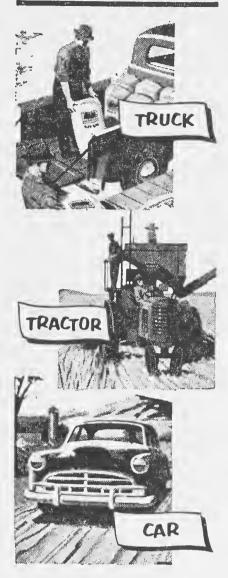
The leader is the key man in the family, for upon his shoulders rests the job of keeping the club program running smoothly.

The member is the nucleus in the 4-H family. Each member has the task of tending to his or her project and club duties in an efficient manner, to make club achievements possible.

Backbone of the club family is the parent, for parents should give the needed inspiration and encouragement, and should understand early that they are indispensable in the work. They ought to have a sympathetic attitude toward the work, and show willingness to furnish equipment, seed and other materials, as well as be available to give timely advice and encouragement and attend special club functions.

Parents, says the newsletter, are often the unsung heroes of the 4-H family. They work behind the scenes to ensure a club's success. Reward comes to them in the accomplishments of their sons and daughters.

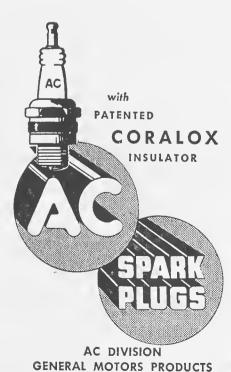
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Notes from British Columbia

Careful management increases range carrying capacity

by C. V. FAULKNOR

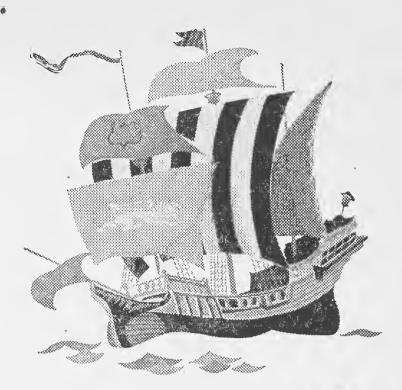
Care of B.C. Ranges. W. L. Pringle of the forage crop division, Range Experiment Station, at Kamloops, warns ranchers against pinning their hopes on any easy method of solving their forage problems such as haphazard range reseeding over a wide area. You can't expect to rub a lamp like Aladdin did and then hope to see a nice new range spread out before you-it's better to rub your noggin and do some careful thinking about sound management principles.

Thousands of dollars have been spent on range improvement research by universities and experimental stations, and all have concluded there is no rapid or cheap method. Reseeding is no cure-all for range troubles: it should be adopted only when all good grazing plants on a piece of land have been killed out and there is little chance of the range regaining its health. Reseeding is a long-term venture, and its success or failure may only be determined on its productivity over a number of years - not merely on the establishment of a

If your goal is an additional forage supply and not just cheap grazing, reseeding has a place. However, there are certain basic practices to be followed. For one thing, select forage species which are adapted to the soil and climate of the chosen site; each set of conditions requires a particular group of plants. Again, in order to successfully introduce a new plant, competition in the form of existing vegetation must be eliminated by some form of cultivation. The seed should also be covered in some wayby seeding with a drill if possible, or if broadcast, by some type of harrowing.

"Surely we are not naive enough to expect that a few seeds scattered over the ground will have any material effect on a range," Pringle states. "A large percentage of those seeds will rot on top of the ground and others will be food for birds and rodents. Most of those which manage to germinate will be 'starved out' by existing vegetation-any that do survive will enjoy an extremely short life because of their palatability to grazing animals."

Reseeding is not desirable on all grassland sites. Two good seeding sites are open areas where annual precipitation varies from 12 to 15 inches and the pressure of grazing has been such that desirable perennial grasses have ceased to exist, and abandoned farms which have been taken over by unpalatable weeds. Sagebrush lands of low altitude where the precipitation is around 8 to 12 inches often need reseeding to bring them to optimum grazing capacity. This can best be done by removing the sage via heavy disking, or by railing, then reseeding with crested wheatgrass at 5 to 10 pounds per acre. Where land is too steep, rocky, or stump-covered to use machinery, success has been achieved by broadcasting seed at 10 to 15 pounds per acre, then running cattle or sheep over it to punch the seed into the ground.



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- If you are a newcomer to Saskatchewan, you should take proper steps to obtain protection for you and your family before you have completed six months' residence in the Province.

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- 1. You should pay your hospitalization tax before the first day of the seventh calendar month following entry into the Province.
- 2. Coverage for hospital bills will then be provided from the first day of the seventh calendar month after arrival.
- 3. If you are late paying your tax, benefits will start one month after date of tax payment.
- 4. The tax which new residents pay to obtain coverage until December 31 is at the rate of \$1.26 per month for adults and 42 cents per month for dependents under 18, with a family maximum of \$3.34
- 5. Pay at the nearest SHSP tax collection office of the city, town, village, rural municipality or local improvement district in which you live.

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SASKATCHEWAN HOSPITAL SERVICES PLAN

Notice of Dividend No. 44

United Grain Growers Limited

Class "A" Shares

Notice is hereby given that the Board of Directors has declared a dividend at the rate of 5% on the paid-up par value of Class "A" (Preferred) Shares (par value \$20.00 each). This dividend will be paid on or about September 1, 1954, to holders of such shares of record at the close of business on Saturday, July 24, 1954.

By Order of the Board.

D. G. MILLER,

July 6, 1954. Winnipeg, Manitoba.

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Prov.



Where broadcasting is adopted, seed protection is the most important factor in establishing a stand.

Because of its tremendous root system, crested wheatgrass is our hardiest range seeding species, and well adapted to the droughty conditions generally found. Two other introduced range grasses, Russian wild rye and intermediate wheatgrass, are also well suited to such areas, although these have just recently reached the open market and may be too costly for large-scale use. Russian wild rye seeded at 4 or 5 pounds per acre is best for late spring grazing, or it may be mixed with crested wheat, using 2 or 3 pounds of each to the acrethis combination gives the longest period of spring grazing. Intermediate wheatgrass has a creeping root system. When seeded at 6 to 8 pounds per acre a stand is easily established. However, being more palatable than the other two, this grass needs more intensive management. The more palatable a plant is, the more care must be exercised in grazing it. On the range this is particularly true of alfalfa.

Seeding time is very important, and it is dependent on moisture conditions. Seed spread in the fall or early spring may germinate with the first few warm days, then have its growth arrested by long cool spells. April winds will then dry out the soil's surface layers and the seedlings will die. Most of the B.C. range lands are typified by heavy June rains, therefore a late May seeding is a very satisfactory time.

"Before you attempt any large-scale range seeding, contact your range experiment station, or your local district agriculturist," advises Pringle, "you can save yourself a lot of headaches that way."

Weed Spray Damage

DURING the last year or two there have been a great many complaints from disappointed horticulturists, whose gardens and plantings have been damaged by spray drift from chemical weed sprays applied on nearby fields, or sometimes by their own careless use of 2,4-D applied to lawns.

G. A. Kemp, of the Lethbridge Experimental Station, has called attention to the extreme sensitivity of tomatoes to 2,4-D and other hormone weed killers, even when they are subjected to minute quantities. Tomatoes may be damaged only to the extent of causing seedless fruits, or they may also be damaged severely enough to prevent any fruit setting whatever. The first evidence of spray damage is that which shows up on all broadleaved plants affected by 2,4-D, namely, a curling and twisting of the

P. D. McCalla, supervisor of horticulture, Alberta Department of Agriculture, recommends early morning or evening use of 2,4-D in and around the garden because there is less wind at these periods to cause drifting of the spray. He also suggests avoiding the high volatile esters around the home. Care is required with all forms, but the sodium salt, amine, or low volatile esters are less dangerous.



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Notice is hereby given that the Board of Directors has declared a dividend at the rate of \$1.00 per share on the paid-up par value of Class "B" (Membership) Shares (par value \$5.00 each). This is out of earnings appropriated at the rate of 25 cents per annum in the four-year period ending July 31, 1954.

This dividend will be paid on or about September 1 to holders of such shares of record at the close of business on Saturday, July 24, 1954.

By Order of the Board.

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Chemical Control of Wild Oats Is Coming

Continued from page 9

conditions permit, and by the use of commercial fertilizer. Wild oats that do get off to a better start than the crop, can often be slowed up by cultivation after seeding. Before the sprouts on the crop seed are one-half inch long, a stroke with a rod or wire weeder, or a drag harrow, will kill many small weeds.

A number of crops will give some control. Crops grown for greenfeed can be cut before the wild oats shatter, but it must be remembered that wild oats, even if cut quite green, will mature viable seed, so care must be taken to prevent their spread by animals.

Fall rye will greatly reduce sprouting and infestation, and delayed seeding, or greenfeed crops to follow rye, will help to complete the clean-up. Rotations including grasses and legumes will reduce wild oats infestations even though, when the sod is broken, wild oats may sprout. Seeding should be delayed, at least for the first crop after sod. Control with forage crops will increase the length of time the crop is left down, especially if no wild oats are allowed to go to seed.

Causes for failure of cultural control measures are known and should, where possible, be guarded against. One that cannot be guarded against is unfavorable weather: temperature, moisture and oxygen conditions must be right, or wild oats will not germinate. On the other hand, a control program can be damaged by failure to use clean seed, by deep cultivation, which buries the wild oats, or by too early fall cultivation that does not permit the wild oats to dry out, or cultivation of stands of wild oats on cool, moist days that give a poor kill, as well as by early season seeding of crop on wild oats infested land, and even by using a late rather than an early maturing crop in conjunction with delayed seeding.

MENTION has been made of the fact that promising results have been gained from the use of chemicals. Although the general farm use of chemicals for this purpose still lies in the future, many agricultural scientists are devoting a great deal of time to research on this difficult problem.

Some very promising results have been gained by Professor L. H. Shebeski and his associates in the Plant Science Department, University of Manitoba. Last fall they worked varying amounts of a soil sterilant, IPC (isopropyl n-phenyl carbamate) to varying depths in the soil. In their experiments IPC applied at ten pounds per acre, worked to a depth of two inches, applied and worked down in the fall of the year, have killed wild oats in the soil.

It will also kill cereal crops that are sown too soon in the spring. Wheat, oats and barley, sown near the middle of May, were severely damaged; sown 30 days later the IPC did not harm the crop. The chemical destroyed brome grass, and flax was harmed but would mature a crop.

Many early sown crops were not hurt. Sugar beets, soybeans, field peas, sunflower, rape and alfalfa were entirely unharmed. Corn suffered a little damage.

The Manitoba results are borne out by work in the United States. Dale W.

Bohmont, Head of the Department of Agronomy, University of Wyoming, has told The Country Guide that they have had "considerable success with IPC, CIPC and Dalapon." They used four pounds of IPC wettable acid per acre, as a pre-emergence spray, and disked it into the soil. This rate did not harm sugar beets, peas and beans, and it controlled wild oats. CIPC was a little more effective in controlling wild oats, but did more damage to the crops. Dalapon showed promise in sugar beet fields.

The University of Minnesota had erratic results with IPC. Montana State College had considerable success disking three to four pounds of IPC into the soil in the spring prior to seeding garden crops, though it was less effective if the soil was dry.

WHILE the work with IPC in the soil has been progressing, George Knowles, agronomist, Central Experimental Farm, Ottawa, has had interesting results with the spraying of growing crops with maleic hydrazide.

It has been determined that there is a stage in the growth of every flowering plant when it is very sensitive to this chemical. If sprayed at this stage the seed will mature, but the matured seed will never germinate. Wild oats, wheat and oats reach this stage together, so the chemical cannot

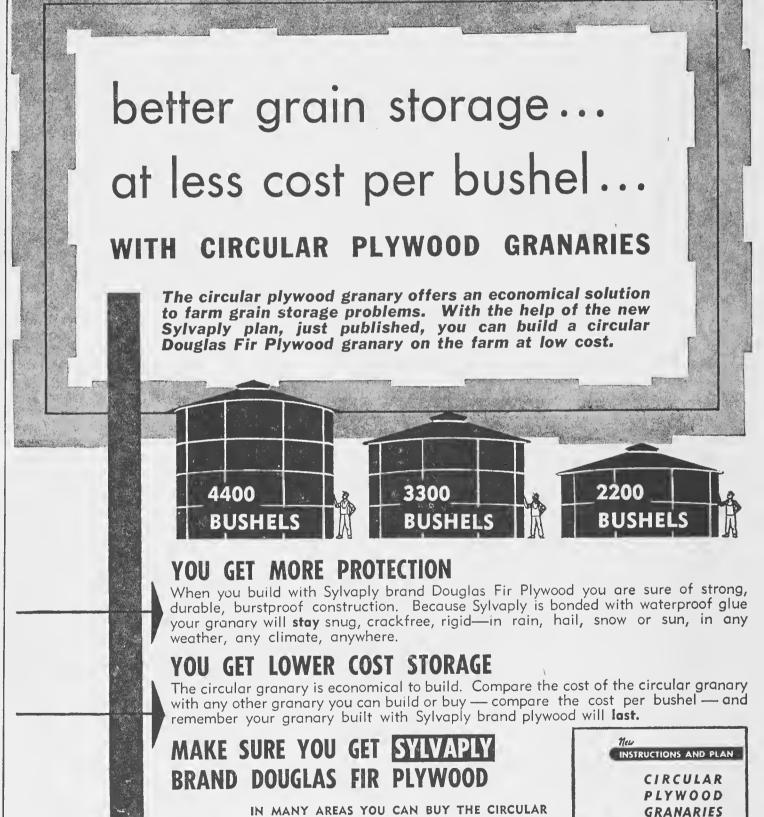
be used on wild oats in wheat and oats crops. Barley and flax mature ahead of the wild oats growing among them, and are resistant to the chemical when the wild oats is still susceptible. For this reason there is some hope of the chemical being useful in these two

In the experiments at Ottawa a 30 per cent liquid amine formulation was used with a wetting agent-Orvusadded at the rate of a teaspoonful to a gallon of water. One pound of active ingredient (2½ pints of the 30 per cent liquid formulation) was applied.

Flax that had finished flowering, and barley in the dough stage, were found to be resistant when the wild oats was

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still susceptible. Good results were obtained by applying the chemical up to three days after the flax had finished flowering. Spraying flax in the flower stage will sterilize the seed, and if barley is sprayed before the dough stage sterile spikelets occur.

Wild oats, flax, barley, oats and wheat plots were sprayed at various dates at different rates. It was found that the one-pound rate on wild oats, in the late flower to early milk stage, caused non-viable seed to be produced. Flax, with 100 per cent bolls, sprayed on the same date, produced seed, 95 per cent of which germinated; barley, then in the dough stage, produced seed 97 per cent of which was viable. Oats and wheat, still like the wild oats in the milk stage, produced no viable seed.

Experiments with IPC, maleic hydrazide or other chemicals that might control wild oats are now being conducted at experimental farms and universities across western Canada. It is generally agreed that more of this work will have to be completed before farmers can be advised to resort to the general use of these chemicals.

Let's Look at the Co-ops

Continued from page 10

co-operative store manager said to me, "We have kept ourselves from becoming involved in other organizations." Though he did not realize it, his statement really described the fact that his co-operative bought from the provincial co-operative wholesale society, only when they were not attracted by some alleged bargain offered them elsewhere; and that, as far as they were concerned, other co-operatives could unite for educational and defensive purposes on the provincial or national level, but they would run their own show.

It all depends upon the point of view. If a co-operative is merely regarded as a business undertaking, in which men have joined with others to save or make money, then the success of that particular co-operative, for them, is perhaps the first and only consideration. If, however, the co-operator sees in co-operative principles and methods, a means of raising living standards for ordinary people, and a new and better form of economic life for society, he will be keen to extend his co-operative activity to the maximum.

We are aware, of course, that members of co-operatives can not be divided into two such groups. Each one of us is a mixture of types. One man will conform more to the first type, another to the second. To me it is one of the most encouraging features of the co-operative movement, that individuals of all kinds can, and do, contribute to its progress. The idealist among us has reason to be grateful to the hard-headed fellow whose chief interest might appear to lie in patronage dividends, a higher price for his products, or a lower cost of the goods and services he has to buy. On the other hand, the so-called practical man or realist should realize that the men and women in the co-operative movement, who see in co-operative action a means of securing changes in the economic system which will create a more just and equitable society, are

"Is it likely that chemicals will be found that will control wild oats, while permitting our regular crops to be grown?" The Country Guide asked Professor L. H. Shebeski.

"Yes," he replied. "Extremely likely. We are already working with chemicals that show decided promise. There are a host of chemicals not yet exhaustively tested that could revolutionize weed control.

"Right here at the University we have had promising results with IPC. Problems as to the proper time of application and the proper method of handling trash cover at the time of application remain to be solved, but I hold out every hope for the chemical control of wild oats.

"In the meantime, cultural control, if correctly practised, will control wild oats," he continued. "I fully appreciate the problems faced by many farmers, but I would point out that proper cultural practices, combined with early maturing, rust-resistant grain varieties will go far toward solving their wild oats problem."

the people who will make sacrifices, wait long to enjoy personal benefits, and work hard to make the co-operative a success. Having worked with both types for a generation, I know that each has its good points and there is something of the idealist in all.

There is a trend toward large operations everywhere, in almost every line of economic enterprise. This trend is not new. We have seen it developing in the last 50 years or more. The question for us, as co-operators, is whether we should resist it, or take it in flood.

THE province of Quebec, and to some extent the Maritimes, seem to be able to maintain their co-operatives on a local, or parish basis, though the growth of the Co-operative Federee, with its 450-member cooperatives, and of Maritime Co-operative Services, serving the co-operatives of three provinces from Moncton, New Brunswick, have shown that economic necessity prevails there, too. It is significant to note, however, that though the credit union movement is 54 years old in Quebec, that province does not yet have a provincial co-operative credit society. It has, instead, ten regional caisses populaires (peoples' banks). This is a very interesting feature of co-operative organizations in castern Canada and worthy of more

Here in the West we have long had the habit of setting out to organize our co-operatives on a grand scale. Our political arrangements encourage it. We get a charter from the provincial government to cover a whole province with our co-operative enterprise. If we did not do so originally, we have later followed the trend toward bigness. In Alberta the dairy co-operatives are consolidated, except for a few independent local co-operative creameries, into two big regionals—the Central and Northern Alberta Dairy Pools. The Central operates 19 dairy plants from headquarters at Red Deer and as far south as Lethbridge, and the Northern Pool at Edmonton operates 29 plants, one of them in the British Columbia Peace River block.

The British Columbia fruit growers were organized many years ago. Their co-operatives covered large areas in

the mountain valleys and, in addition, they had a powerful membership organization-the British Columbia Fruit Growers' Association. Similar organizations were created among the small fruit growers of the lower mainland. In sheer desperation, after many years of effort in voluntary co-operative organization, the fruit growers felt it to be desirable to establish a "one-desk authority," and B.C. Tree Fruits was set up as their sole marketing agency. In the west coast province also, we have one of the largest dairy co-operatives in Canada, if not in North America—The Fraser Valley Milk Producers' Association. In other provinces a similar process is at work.

MANY people of experience and responsibility in our co-operatives are keenly interested in the trend toward consolidation, in spite of the fact that there has been general acceptance, for many years, of the idea that large business organizations work to the detriment of rank and file citizens. Monopolies and cartels are regarded as evil; and attempts are made to restrain them by law or cause them to disband. It seems to some, therefore, that organizations of people on a cooperative basis are in danger of drifting away from first principles, when they attain large proportions, or great financial strength. Perhaps those of us who think in such terms are not giving sufficient weight to the values that come from efficiency of organization, from savings effected by reduction of executive overhead, or from the financial strength of pooled funds.

Attempts to restrict co-operative action to humble efforts among the poor are bound to fail. It does not matter whether the motive is to build fellowship in communities, or to maintain relative isolation to further 'some cause other than the building of cooperatives; or again, the motive of that type of businessman who sees in the growing strength of co-operatives a menace to his way of living; or again, the motive of the frightened conservative who sees in any form of collective action among common folk, the threat of communism. I say again it does not matter what the motive which engenders opposition, it is inevitable that co-operatives will grow and reach out into more and more areas of the economic life of Canada, and all other free countries, where men have seen the possibilities of co-operation.

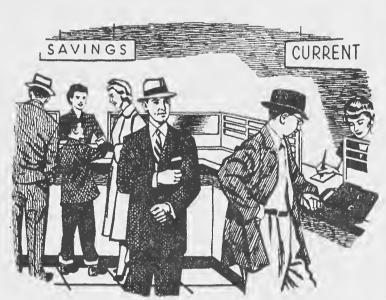
At the 1954 Congress of the Cooperative Union of Canada in Winnipeg, the tendency of co-operatives to adopt the modern business techniques of centralized ownership and control was before the delegates on two principal occasions. The consensus of opinion seemed to be that in the relations between local co-operatives and the federated, or other central units which they have set up, there should be persistent effort to secure all the advantages of the master-minded commercial corporation and, at the same time, retain all those values which come through membership participation in government and control at the local level where people live. Surely a tremendous task requiring almost a superhuman type of leadership! Men are rare in the co-operative world, who combine in their one person the astuteness and business acumen of the modern commercial world, and at the same time an acute awareness of, and motivation for, those considerations which encourage growth of personality and the development of true democracy in the affairs of the market place.

Speaking at the banquet tendered by the Manitoba Federation of Agriculture and Co-operation, Prof. W. B. Baker, chairman of the Saskatchewan Royal Commission on Agriculture and Rural Life, spoke eloquently and with penetrating force on the same question, from a somewhat different perspective. Professor Baker was concerned with the tendency to put things on the contractual level in our cooperatives, so that everything is governed by legal arrangements and rules. He called this working from the top down, a gesellschaft type of co-operative, where the emphasis is on efficiency and results. He pleaded, in addition, for careful building into the co-operative structure of our Canadian life, of those values of rank and file people that are the product of community consciousness, the elements of

association and mutual aid. This he called the gemeinschaft type.

The emphasis on this subject at the Forty-fifth Co-operative Congress was not incidental. It was evidence of a deep sense of need. Men and women who are devoting their time, energy and money to building and manning the co-operatives of Canada and, I venture to say, of other areas of our world life, are repelled by the thought that all of their effort and sacrifice might result in a mere percentage of financial gain for today's members of those co-operatives. They want something more. They want to feel the pride of ownership. In the midst of a world economy more and more under the control of relatively small groups, certainly not always motivated by any sense of trusteeship for the world's ordinary man, they have a growing feeling of strength and security in the possession of economic machinery, which they can themselves control and direct for the common good. They are determined to create economic arrangements that can be used to change our way of living. They have lost faith in the old dictum that competition is the life of trade. They have rejected the old tradition that the law of supply and demand will make all necessary and beneficial adjustments, if we only leave it alone. They feel that, in the principle of co-operation, we have one answer at least, and a good one, to the insistent and ever-mounting question

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of the world's unfed millions, "How can we get our share?"

To this type of co-operator, and it is from them largely that the movement derives its dynamism, the fear is not that our co-operatives will become too big, or extend beyond the control of the ordinary man. They have before them many examples of large business co-operative undertakings handling many millions of dollars' worth of goods each year and growing steadily, in which the democratic principle is constantly guarded. If they have any fears with respect to the future of co-operation, it is that we shall be too slow in our development. Some of them fear that rank and file men and women, in great numbers, will fail to see the value and possibilities of the principles and practice of co-operation; and that in some unhappy crisis of our world economy, even the relatively steadygoing people of Canada might turn their backs on a century or more of

Sure, It's a Farm In Ould Ireland

Continued from page 7

with a top dressing of phosphate and potash. The land is a light, sandy loam, and the average rainfall annually is about 36 inches, though rains of more than half-an-inch at once are a rarity.

THE only crop threshed on the farm is oats and the grain is used to feed a flock of some 200 Leghorn hens. In some aspects of poultry production the average Irish farm seems to be far ahead of its Canadian counterpart. Over here the idea of free range for poultry has been accepted for decades. Until recently, free range was provided for laying flocks as well as for young birds. It is only in the last ten years that the idea of deep litter pens for laying stock have become widespread.

These practices are fully borne out on the Hutchinson farm. A good quarter of a mile away from the buildings, young poultry ramble freely in the pasture and soon learn to head for their shelter when it is time to be shut up at night. Apparently, losses to foxes and other animals never become an economic factor. The laying flock, however are quartered in deep litter near the buildings.

Until a year ago, the Hutchinsons were raising pigs, but when Sam began his milk distribution business, this part of the farm program was dropped. Moreover, the new venture has been definitely more profitable than the old.

achievement, reject the principle of co-operation as being unsuitable because of its voluntary nature, and take some violent course to secure what they regard as their just rights.

To me, while this is a possibility, it seems much more likely that, in our democracies, there will be some effective curbs placed on the tendency toward centralization of wealth; and an increasing recognition of co-operation as one of the basic elements in human life. With this recognition will come a widespread determination to apply it to more and more areas of our economy. To develop faith in the possibilities of co-operation in more people, so that they come to feel that they are part of a nation-wide, in fact, an international movement, is to speed up the process.

(Note: Norman F. Priestley is secretary of the Alberta Co-operative Union, Calgary.-ed.).

The Hutchinsons' entry into milk retailing, made in the face of strong competition, was true to a pattern of enterprise and experimentation that has always shown around the farm. Seventeen years ago, when there were less than 300 such machines in all of Ulster, Mr. Hutchinson bought a second-hand tractor, despite the neighbors' protests that he would burn up the countryside. Today, Stan and Sam, in their late twenties, have never hitched up a horse. Mr. Hutchinson faced similar scoffing when he bought the first milking machine in the district. He is among the 20 per cent of Irish farmers who have hydro in their buildings. Thus modern electrical appliances share a big, old-fashioned kitchen where coal (not peat) burns in the grate. Soon, a water pressure system is to be added to the comforts that make for good farm living.

One disappointment in the Hutchinson family has been that the two boys at home have never attended farm schools. The period when they might have been gaining such experience came during the second war, when schools and colleges in the north of Ireland were closed down and used as military establishments. For similar reasons they were robbed of experience in Young Farmers' Clubs, which are now quite strong in Ulster.

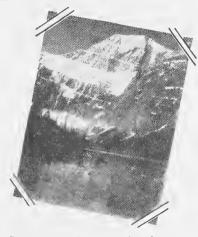
But Stanley and Sam have made up for this deficiency by avidly reading everything pertaining to farming on which they could lay their hands. And the reading is followed by good roundfamily arguments, which are frequently noisy, but never ill-natured.



Sam Hutchinson holds a carton of tuberculin-tested milk beside the snappy truck, with which he supplies hundreds of Cookstown customers.

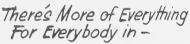


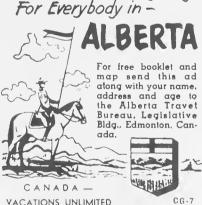
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Looking across the neat hedgerows of the Hutchinson farm, to lush pastures supporting sleek cattle and to solid, well-kept buildings beyond, it is hard to realize that one is in a land once known for potato famines and mass migrations.

And yet the Hutchinson farm is not a showplace. It is a fairly typical operation in any of the pleasant valleys that cut through four of the six counties of Ulster.

In grass and in good management, the Hutchinsons have found the answer to successful farming.

(Note: Peter Hendry is a Winnipeg newspaper man, who, with his wife (who also writes, as Jean Shaw), is in Europe for several months and will write a series of articles about farms in different countries, for readers of The Country Gnide.—ed.)

Remember Back

Continued from page 8

to bloom again. And that she had as much right to bloom out in the spring as the apple trees did."

My mother thought that over for a long time, and then went on with the dress. I watched her finish and bite off the last thread. Then she stood up and held it to herself, and then she wrapped it back in the pink paper with the yellowed old pattern, and then she spoke to me again.

"Bud," my mother said, "I am going to let you make the charge for making this dress . . ."

"I'll only charge her one dollar," I said. "Can I have it to buy me a reel for my fishing pole?"

"You can have whatever you decide to charge," my mother said. "But don't be too quick about making up your mind on how much to charge. You can fish as you go down the creek to take it in the morning. It is such a good time to think while you fish, and then you can decide how much to charge. Just remember back as far as you can and consider all things."

NEXT morning I got up early and turned rocks and found me a tobacco can full of crickets, and I took my fishing pole, and the pink package and went off down the sunshiny spring road.

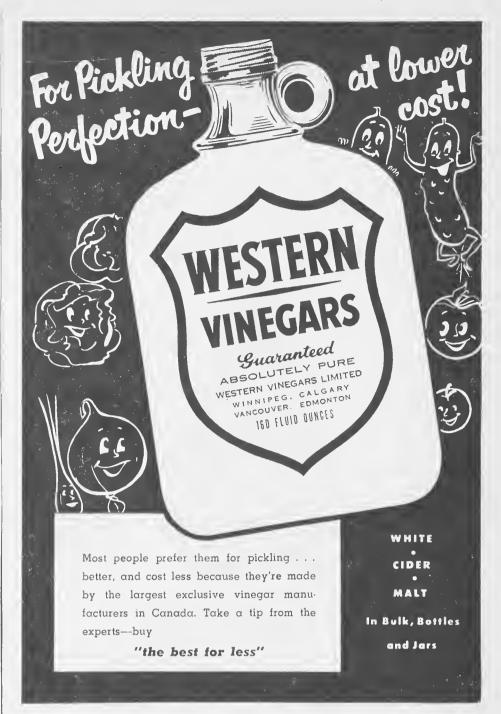
I stopped once to try the fish. I knew the best place where the roots of a big old sycamore tree bowed up dry and mossy, close to a deep hole where the flecks of foam circled and floated just below a big rock in the creek. I put on a cricket and tossed it out

Then I waited. I waited for the nibble and the little jerk that sends the tingle back into your body and makes you shiver, but there was no nibble and no jerk.

I waited a while longer and then wound up and tossed out again and waited.

And like my mother had said, when fish don't disturb you, it makes you set your eyes on something and study and remember and consider.

I wondered why my mother had told me, "Consider the matter and



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And it caused me to remember back. It caused me to remember back ten years, and that made me remember what my mother had said about old Mrs. Pemberton, and how ten years ago her nerve and her eyes were good, and she could have made her own dress.

And it was plain now. The old scar brought it back. Why I could see old Mrs. Pemberton ten years ago.

I could see her come running in answer to a call from my mother. I could see her with a needle and some white thread, and I could see how steady was her nerve and how good her eyes when she took the five stitches to sew back the gash I had made in my leg with the axe.

I shoved my breeches leg back down and got up and wound up my fishing line, I knew now that I had decided on the charge for the spring dress.

I started down the road to take the dress to old Mrs. Pemberton. At first, I strolled slowly, but something prodded me from inside, and before I knew it, I was loping down the road.

When I got there, old Mrs. Pemberton was in the garden with a hoe, and an apron pocket full of some kind of seeds. I handed her the pink package. She took it and kind of hugged it to her heart, and then she spoke:

"How much do I owe your ma for makin' it?" she said.

With the feeling in my throat and the scar on my leg, and the memories of ten years before so plain, I knew I'd have to say it quick and fast.

'Nothin'," I said.

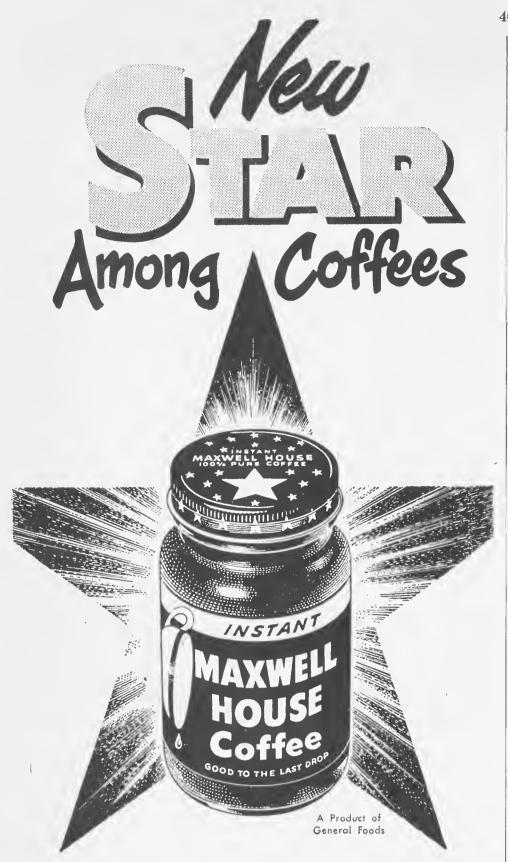
"But I don't expect her to make me a dress for nothin'," Mrs. Pemberton

"It ain't exactly for nothin'," I said. "We . . . well . . . we're just kind of gettin' around to payin' you back for some stitchin' you done for us one time . . .

Mrs. Pemberton appeared not to remember instantly, and my throat kind of choked up, and I couldn't sav no more words, but I just eased up my breeches leg to show her the scar, and she started to rub my head with her shaky hand, but I ran. I turned and grabbed my old willow fishing pole and ran back up the road.

DIDN'T see Mrs. Pemberton again until the next day, which was Sunday. Then I saw her. She was standing with my mother. I thought they had the most curious kind of light in their faces, and old Mrs. Pemberton stood straight and proud as any blossom that ever an apple tree put out, and I saw the high, fluffy ruffles across the shoulders of her bright calico dress, and she was holding the songbook with my mother. But really they did not have to read the words of the song, and Mrs. Pemberton's eyes were not bothering her now, for the song was kind of familiar, and I thought it was pretty to hear old Mrs. Pemberton and my mother coming over the ringing

"When I wake with the blest, *In the mansions of rest,* Will there be any stars in my crown? . . .



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It's the only coffee of its kind in the world ... as quick to fix as old-style "instants" but tastes so different . . . so rich and full flavored.

100% PURE COFFEE NO FILLER ADDED

This superb, roaster-fresh coffee is actually brewed for you in the spotless Maxwell House kitchens. When it reaches peak perfection the water is removed — leaving behind the miracle "Flavor Buds". You just add hot water. They burst instantly into rich, delicious coffee.

See how the "Flavor Buds" "Come to Life" in your cup!

MAGNIFIED VIEW of "Flavor Buds" at the instant hot water is added. See how they release famous Maxwell House flavor.



SAVES YOU MONEY, TOO!

Two ounces of Instant Maxwell House make about as many cups as a pound of ordinary coffee - yet save you at least one-third of the cost.

IM-564





YOU CAN TASTE THE DIFFERENCE

The Countrywoman

There has never been a time in human history when so much cold, calculated, callous planning has been devoted to the destruction and degradation of human life; yet never has there been a time when so many people in so many parts of the world have given an affirmative answer to the fundamental question "Am I my brother's kcepcr?"

> HUGH L. KEENLEYSIDE, Director, UN Technical Assistance Administration, at Canadian Welfare Council dinner.

OR a few moments and all too briefly, we had glimpses of rural life scenes, vastly different from any found in the western world. We heard a number of personal experiences in significant work at the "village level" which illustrated something of the range and complexity of problems facing those who have set themselves to practical tasks raising the standard of living for millions of people, living in the under-developed and under-privileged countries of the world.

The word-scenes painted and the experiences related were all the more vivid and arresting because they were told by natives of countries on the other side of the world: India, Pakistan, Iran, Iraq, Egypt, Turkey, Burma, Malaya-and closer to our side: Brazil, Jamaica and the Philippines. Though the speakers varied in color of skin and in accents of speech, they uniformly spoke eloquently in beautifully chosen English words. They were without exception "leaders" in their homeland and many carried responsibilities of high administration positions in government or other social welfare organizations.

They were united in interest on the subject of Rural Programs, both in a small study group—one of 20 such groups at the Conference—and in panel discussions later. Rightly so too-because in many of their countries the rural portion of the population runs as high as 80 per cent of the whole; hunger, disease, insufficient land for production purposes and pressure of population upon available food resources presents almost overwhelming problems. Illiteracy running as high as 90 per cent among the rural population in some areas intensifies the problem.

"Rural programs in under-developed areas have a special significance. We are not working on the fringes of life-problems. We are getting down to rock bottom, to basic elements of our advance," said S. K. Dey, Development Commissioner for West Bengal, India.

'Nothing but the multiple-purpose program will do, integral and well co-ordinated. It must go right across the board and include: sanitation, health, education, agriculture, economic projects, community projects and citizenship. In villages, the problem attacked first, may vary. In one it might be malarial control, in another the building of a rudimentary road or as in some instances moving people off their land to permit some technical

'In the many and pressing problems of living, we have need for a general practitioner rather than the specialist or the team of experts. The villager must be approached and dealt with as a 'whole' man, if we are to gain his understanding and cooperation and so raise the standards of living for

Mr. Dev told of an agricultural agent going to talk to a villager about a new simple type of a plow. He described its use and benefits to the man, how it would lighten his work and help him produce bigger crops. He talked for over an hour, pausing frequently to say, "you understand what I am telling you?" The villager regarded him seriously, nodding occasionally but saying nothing. Finally the agent bade him take the plow and use it. Only when he had quite finished talking did the other speak: "But my child is sick, he is very sick with diarrhea. My wife and I are afraid that

Welfare and agricultural workers combine forces for attack on problems in under-developed countries with a unified program at the village level

by AMY J. ROE

he will die. What should we do?" Disappointed and impatient that the long lesson had been lost, the agent replied: "I don't know. That's health, you will have to ask someone clse to tell you." That agent, because he failed to get the kind of help needed "lost face" in the village and was not sent back there to work.

ND so in the East has emerged a new figure-A the rural social welfare worker who functions as a liaison agent between the villagers and those who come to urge better sanitation, the establishment of schools, child care and health classes, cleaner and better houses, better roads, farming methods, co-operatives to finance and set up local industries,

With an eloquent gesture, as if holding a large globular object, a nut or shell in his hands, Mr. Dey continued: "The more restricted a problem is to a center, the more necessary it is to have it burst out of the shell which encloses it. You may exert periphery pressure and break the shell, or radial pressure—working from the natural core or eenter outward to an unfoldment of varied and numerous plans of village life improvement. We use the latter method."

From Egypt came M. M. Shalaby, who had graduated in economics from university in Cairo and taken advanced studies in social work at Columbia and New York Universities. He referred to two schools of new-type in Fundamental Education, set up by UNESCO, a special agency of United Nations; one school for the Arab states at Sirs-El-Layyan, Egypt, and another for Latin America in Mexico. He carried with him a little booklet containing the story of Rural Social Centers in Egypt, a paper prepared by Dr. Ahmed Hussin, former minister of social affairs and Egyptian ambassador to the U.S. The social centers projects in rural areas were first laid down in 1941. At time of reporting, they numbered 136, distributed in all districts and served one and a quarter million of the inhabitants.

At first there was some confusion with emphasis being placed first on health, then upon agriculture, next on co-operatives and then education. The parents of one village were fined for not sending their children to school, as school attendance is compulsory under new laws. Enquiry revealed that the children of that village had to travel two miles to school and had adopted the practice of playing in the fields rather than going to classrooms. Under direction the village secured a school of its own within a year and a half of the action taken. The problems of the villages are related and the work of one center is stimulating to others.

A tall, dark man from Trinidad wisely pointed out that "In every village there are just a few men -capable of being leaders in any reform. If at any given time a group of specialists or a team of experts arrive to set up a project, they still have to wait upon those few leaders to win support and sympathy of the villagers." In one ease, the health workers arrived first and looked about. "Flies! flies everywhere! You will have to get rid of the flies before your people die of malaria," they told the villagers. Looking further they observed piles of manure in yards. "Get rid of the manure and you'll get rid of flies," they said. So the villagers heaped the manure into baskets and with considerable labor dumped it into the river, where it was carried out to sea. Then the agricultural men arrived and asked: "Where is the manure from your cattle. You should spread it on your fields in order to have better and bigger crops." And so, he eoncluded,

there is apt to be confusion in the minds of many of the people who have so much to learn. Different authorities stress different points but social workers have to be aware of all the problems to be solved.

DEOPLE in the under-developed countries need our sympathy and understanding was the claim of Mr. Farris, an American who had worked for some time with World Health Organization in Korea. "They are trying to compress into a fiveyear period a program which has taken 50 years to develop in the more advanced countries. Modern knowledge is too technical to be given directly to the people. No matter how willing or anxious a government may be to put in a program of reform, teachers must be found and the work simplified. Most of the reforms have to start at the village

During a five-member panel discussion on How to Develop Leadership For Self-Help, Dr. Catherine Kendall, U.S.A., in the chair, remarked: "As I have observed this meeting for the past week, it seems to me that it has been the social workers' first baptism in agriculture. The process is perhaps logical in certain places but it is not the pattern of experience set in Canada, the United States or in the countries of western Europe. I doubt if the altered status would be welcomed there.'

To which a director of Food and Agriculture Organization, F. F. Linnger, replied: "What we are now seeing is a concentration in development. As social workers, you are viewing a unified program not only of the economic and social forces but also of food production. United Nations must work through the government of any country and the tasks must be unified. We might regard this as a happy marriage between social work and agriculture. Great care must be taken in the selection of those who train for the work. A worker can't just teach. He has to feel his way and bridge the gaps."

HAVING purposely started in the middle, selecting first those items which are of special interest to rural readers, we now go back to the beginning: the occasion and the purpose of the

The International Conference on Social Work held its seventh general meeting in Toronto, June 27 to July 4. Some 2,000 delegates, visitors and observers were present from 41 countries. The previous meeting was held in Madras, India, two years ago. The next will be held in Munich, Germany, in 1956, and the 1958 meeting is planned to be held in Japan.

The theme of this year's Conference was Self-Help and Co-operative Action. By early fall, the theme of the eighth conference will be announced.

The purpose of the conference is to provide a forum for discussion of social work throughout the world, to note progress and changing developments. In welcoming the delegates in the name of the government and the people of Canada, Hon. Lester B. Pearson, Secretary of State for External Affairs, said: "We must not forget that well over one-half of the people of the world today live under conditions of poverty, illiteracy and underdevelopment . . . only occasionally when we catch a fleeting glimpse of the hard facts of life on the continents of Africa, Latin America and Asia do we become aware that for the majority of its inhabitants, this earth is hazardous and forbidding.

The setting up of the United Nations Organization resulted from co-operative action of the more fortunate nations in the free world to aid the less privileged people. There are obligations of self-help and social and economic justice resting upon these countries for whom the UN programs have been established. These obligations rest heavily on the governments of the less-developed which have accepted them.

"Uncertainty about the future courses of the peoples of the less-developed areas," said Mr. Pearson, "is one of the most explosive factors in the cold war, a struggle (Please turn to page 48)



for at least part of the overflow, an arrangement might be made with the neighbors or local butcher to trade part of it now for fresh meat to be frozen later

> The freezer manufacturer will supply you with an estimate of

the amount of food the unit will hold. Divide this amount by the number of varieties of fruits and vegetables and the meat you intend to store at one time. Then as the amount of stored fresh foods decreases cooked foods can be prepared during the cooler winter weather and stored.

In your plan of fruit and vegetable storage include only those that freeze well. This includes most of the garden vegetables and berries, and ripe fruits. Salad vegetables - lettuce, cabbage, tomatoes, cucumbers—are not freezable. Apples lose flavor and color. It is not wise, unless you have an immense freezer, to include root vegetables, tomato juice or corn that has been cut from the cob. They can be stored as well in cellar or jars.

T is a poor policy to keep any food in the freezer L longer than a year. Although fruits and vegetables may keep longer a new crop will be ready and the space will be needed for the fresher-flavored foods. Meats will keep from one month for sliced bacon to nine to twelve months for beef, lamb and veal depending on the amount of fat—fat becomes rancid fairly quickly even when stored at zero degrees. Cooked foods, in general, keep only a few months without loss of flavor.

Preservation by freezing is dependent on the fact that the low temperatures inactivate the

enzymes and microorganisms found in all fresh foods. At ordinary temperatures these factors cause changes in flavor, color, texture and odor, putrefaction and deeay. At a temperature of zero to five degrees Fahrenheit they are completely dormant and the foods remain unehanged. If this inactivation is to be complete throughout the storage period there are six main factors that must be considered in the preparation of the food.

"If there is any one factor more important than any other in achieving high-quality frozen foods, maturity leads the list," according to Dr. A. L. Shewfelt, Head of Fruit and Vegetable Products, Dominion Experimental Station at Morden, Immature fruits and vegetables mean a loss in quantity as well as quality and the food, when served, will probably be very soft and without much flavor. Overmaturity means tough, hard, stringy or fibrous and a less tasty product. For best results select fruits and vege-

tables that are tender, succulent and just right for immediate table use.

For garden fresh foods all winter long store the garden surplus in your food freezer. An understanding of the principles involved and proper methods of applying them ensures good results

by LILLIAN VIGRASS

Some varieties of fruits and vegetables do not freeze well. A poor freezing variety, in spite of care in selection and handling, gives disappointing results. Tests are continuously being conducted by provincial and federal departments of agriculture and by freezer-suppliers to determine the best types for freezing. Lists of these are, or soon will be, available. Watch for these published lists.

Speed in handling is essential as most vegetables and some fruits lose quality very quickly after harvesting. Vegetables should be frozen within a few hours of the time they are picked. They must definitely be preserved the same day. Immediate attention is necessary too, for strawberries, raspberries, wild berries and fully ripe fruit.

Vegetables and fruits for freezing should be prepared as for table use. Choose those of high quality



Top: For a dry pack mix the sugar well into the fruit before packaging. Bottom: For a syrup pack cover fruit with syrup leaving a half inch headspace.

-the frozen product is never better than the original. Wash them thoroughly, discard any inferior parts and, where necessary, cut into serving-size pieces. If delay in freezing is unavoidable, store the fruit or vegetable in the refrigerator or pack it in cracked ice. Clean water, clean utensils and clean hands are necessary for foods are not sterilized by freezing. Contact with microorganisms should be kept at a

All vegetables must be blanched before freezing. Scalding kills the chemical enzymes in the vegetables which cause loss in quality during storage. Blanching also deepens the natural eolor, partially sterilizes and makes the food softer for packing.

Blanching is done by placing a small amount of vegetable in a wire basket or cheesecloth bag in boiling water for a specified length of time. The use of a large quantity of water placed over high heat ensures a quick return to the boiling point after the vegetables are added.

A second, and more certain method-the method advised by Dr. Shewfelt, is to use two kettles of boiling water. The vegetables are immersed in the smaller kettle of water for 15 seconds, then transferred to the second. This shortens the time in which the vegetables stay in the water just below the boiling point.

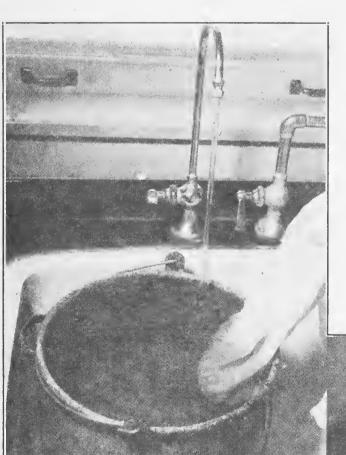
REEZING has become one of the better known methods of preserving fresh perishable foods. It is a safe, simple and easy method of preserving the surplus from garden and orchard, of keeping fresh in-season fruits purchased when least expensive and of storing meat.

Freezing holds the color, texture and gardenfresh qualities. It maintains high standards in flavor of fish and fresh meat. It retains most of the healthgiving vitamins, minerals and other nutrients found in fresh food. With so little cooking involved, the discomfort of working in a kitchen on hot summer days is reduced. Once the initial cost of purchasing a food freezer is met it is a relatively inexpensive method of preserving. The rent of a locker is not high for the services rendered.

To make the most of the freezer or locker space, a "plan of freezing" is essential. Plan a program in which the freezer is almost full the year round rather than having it crowded with immense quantities of food once or twice a year with unused

space the remainder of the time.

It would be foolish to freeze all the surplus from a bumper crop of peas, corn, raspberries or other fruit and leave space for little else for months to come. A whole carcass of beef frozen and stored in the home freezer at one time would throw out the whole freezing program. If you haven't locker space



Top: Cold running water cools the vegetables quickly and thoroughly. Right: Two kettles of boiling water ensure correct timing when blanching vegetables for freezing.



Prov.

City_

The length of time required for blanching depends chiefly on the size of the pieces. Peas require two minutes, large cobs of corn take eleven minutes. Blanching time is counted only from the time the water in which the vegetables are immersed begins to boil.

Immediately after blanching the vegetables must be thoroughly cooled in plenty of cold running water. If running water is not available, add ice to a large container of ice-cold water. Leave the blanched food in the cold water for a time equal to the blanching time. Drain well before packaging.

Off-flavor in frozen food is usually caused by improper blanching. The action of the enzymes that have not been entirely inactivated gives a definite musty flavor and an offensive odor to food. Underblanching causes the vegetables to become tough and to lose color and vitamins. Overblanching gives an insipid taste to the food and will usually result in a loss of vitamins and minerals.

FRUITS do not need blanching. They are more tasty and have a better texture if they are frozen with sugar added. The sugar may be in the form of a syrup with sufficient added to cover the fruit in the carton or the fruit may be mixed with dry sugar before it is packed. Follow the instructions given by your department of agriculture or the freezer manufacturer for either method. Experimentation will tell you which your family likes best.

The sugar-syrup method is a necessity for fruits which brown readily when in contact with air. If the browning is too great, ascorbic acid (vitamin C) may be added to the syrup to remove oxygen present in it. The ascorbic acid is available at any drug store and at some grocery stores. For the amount to use follow the instructions on the wrapper. A quarter teaspoon per pound is usually recommended.

The strength of the sugar syrup used depends partly on personal preference. The lightest syrup that can be used with good results contains 25 to 30 per cent sugar and is made by adding one cup sugar to three cups of water. In some cases a medium syrup gives better flavor and texture but heavy syrups mask the flavor of the fruit

For fruits that taste better when they are sliced or crushed and mixed with dry sugar the usual proportions are one pound of sugar to five or six pounds of fruit. More sugar may be used if desired but this is sufficient to protect the fruit flavor. A rubber spatula is a handy tool to use for mixing.

Packaging in the main determines the possible storage time. All foods to be frozen must be sealed in moisturevapor-proof containers or wrappings. If air is allowed to enter into the carton or package oxidation and spoilage will take place in a short time. When moisture escapes the product becomes dry, hard and inedible.

There are many opinions as to the "best" in freezer cartons and wrappings. In fruit and vegetable storage the trend is toward the cup-type of heavily waxed or glassine-lined cardboard container similar to the carton-type of ice cream container. It may be circular or rectangular, with straight

(Please turn to page 46)

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Fresh Fruit Pies

make delicious eating throughout the harvest season



For special occasions there is no dessert like a fresh berry pie.

THERE are two considerations in the successful making of fresh fruit pies. The crust, whether it is a one or two-crust pie, must be tender, light, flaky and evenly browned; the filling, pleasantly juicy, yet neither "runny" nor too solid.

A soggy undercrust, probably because of the juicy filling, is the most common difficulty in fruit pie making. If it is your trouble, check first on the baking temperature. At the beginning of the baking period the temperature must be high enough to set the crust before the juices begin to form. The baking is then continued at a temperature that will brown the crust even as it cooks the filling.

The recipe used for making the pastry may also affect the sogginess of the crust, as will the incorrect cooling of the baked pie. Place the pie, as you take it from the oven, on a cake or similar rack, that allows the air to circulate on all sides. This cuts down on the amount of steam that forms on the lower crust.

A small amount of thickening is a must in a fresh fruit pie. Flour, cornstarch or minute tapioca may be used. Even very fine dry bread crumbs will thicken the juices to a syrupy consistency that is just right for fruit pie.

If the juices seem determined to run out into the oven despite all your efforts it may be that the final baking temperature is too high. Try cooking the pie for the first ten minutes at 450° F. then place it higher in the oven, reduce the temperature to 350° F. and continue cooking until the fruit is tender and the crust brown, about 40 to 45 minutes in all.

Peaches-and-Cream Pie

6 ripe peaches 1/4 c. flour 1 9-inch unbaked ½ tsp. cinnamon pie shell 1 c. sour cream ½ c. sugar

Peel, halve and stone peaches. Place in pie shell, cut side up. Do not overlap more than necessary. Mix sugar, flour and cinnamon; sprinkle evenly over peaches. Pour cream over all. Combine another 2 T. sugar and ½ tsp. cinnamon, sprinkle over cream. Bake at 450° F. for 10 minutes, then 350° F. for 30 minutes.

Blueberry, Blackberry, or Raspberry Pie

2½ to 3 c. berries Pastry for 2-crust ½ c. sugar pie ½ tsp. salt 2 T. flour

Pick over and wash berries. Mix with sugar, salt and flour. Line pie plate with pastry. Fill with prepared berries. Cover with second crust or lattice-work top. Bake at 450° F. for 10 minutes. Reduce temperature to 350° F. and cook until tender (30 minutes more).

Rhubarb Custard Pie

c. sugar 2 c. raw cubed T. flour rhubarb T. melted butter Pastry for 1 crust

Mix flour and sugar, add melted butter and beaten egg yolks, then rhubarb. Pour into plate lined with pastry. Bake at 450° F. for 10 minutes then 350° F. for 30 minutes. Make meringue of egg white. Spread over cooled pie. Bake until lightly, browned.

Berry Cream Pie

½ c. sugar 1 tsp. vanilla 1/8 tsp. salt 2 c. blackberries T. flour or strawberries c. scalded milk or raspberries 1 baked pie shell

Make a cream filling by mixing half the sugar with the flour and salt. Add scalded milk, stirring continually. Cook over boiling water 15 minutes, stirring occasionally. Beat 1 whole egg and 2 egg yolks. Remove mixture from heat and stir in egg yolk mixture. Cook 5 minutes longer. Beat egg whites; add ¼ c. sugar and beat until stiff. Fold into cream mixture. Add flavoring. Chill. Wash berries and chill. About 1 hour before serving time pour creamed mixture into pie crust. Spread with halved, sliced or slightly crushed berries. Chill. Spread with whipped cream just before serving. Garnish with halved berries.

Deep-Dish Cherry Pie

4 c. pitted sour ²/₃ c. sugar cherries 1/8 tsp. salt 1 T. flour Pastry for 1 crust

Mix cherries, sugar, salt and flour. Fill a deep pie plate so that the fruit is heaped slightly above the top. Moisten rim of plate with water. Place the pastry, rolled to 1/8 inch thickness, over the plate of cherries. Trim the edges leaving a halfinch border that extends beyond the rim of the plate. Turn the border under, making a rim of double thickness. Press to moistened edge of plate with tines of a fork. Bake at 425° F. for 35 to 45

Easier Camp Cooking

by MILDRED KING

THERE is something different and refreshing about a camp meal . . . if the cook knows how. And why not? With a few of these "foolproof" wrinkles for outdoor cooking of the common stand-by foods anyone can assume the important role of chief chef and be the most popular person at the camp.

Let's start with the coffee. It shouldn't be wasted nowadays. Before you leave home measure out the right amount for each meal in camp . . . a tablespoon for each two cups. Sew the measured quantities up in individual cloth bags. Make the bags oversize because coffee swells in water. At camp, drop one bag in the correct quantity of water. This saves waste. To keep the coffee from boiling over lay three green twigs, pencil size, across the top of the pot. The coffee may boil up until it touches the twigs but it will not spill over the fire.

To make good tea you need a pot with a tight lid. One teaspoonful of tea does for two cups of water. You can have the tea made up into individual bags also, restaurant style. Bring the water to a boil first, drop in the bags, cover the pot, and set off the fire to steep for from three to five minutes, depending on how strong you require it. If you make the tea in a regular coffee pot, stuff the spout full of leaves or grass while it steeps. Preserve that "Oo, it's good!" flavor.

"Bacon and eggs" is the popular camp breakfast but many cooks spoil this meal with too hot a fire. Cook over coals, not flames. Use slab bacon since the sliced pieces easily mold in camp. When cooking, turn the pieces often, don't burn one side and then underdo the other in the hope there will be some properly cooked bacon somewhere in the piece. Lay the

cooked pieces over slender twigs while you do the eggs. That way the grease drains off and improves the bacon.

Sort your potatoes at home and take one size to camp, then they will all cook through at the same time. Put peeled potatoes in water immediately to prevent them turning color. Boil moderately fast for about thirty minutes. Don't forget to add the salt.

If you want warm potatoes awaiting you after a late hike, the best plan is to bake them in a pail of sand. Fill an old pail with damp sand and bury the potatoes in it so that they neither touch each other nor the side of the pail. Cook over a slow fire for a full eighty or ninety minutes. The sand will keep the potatoes warm a long

And while we are on the subject of potatoes . . . if you run out of grease and want to fry something rub a slice of raw potato over the bottom of the frying pan.

Cook fish as soon as possible after catching. Fish taken from stagnant water should be scalded half a minute before scaling to remove the flat muddy taste.

Dried fruits are always popular camp fare. Cook dried apples, peaches or apricots over a slow fire, stewing them gently for about an hour. Add a little sugar and a pinch of salt. Prunes require an hour to cook also but need no sugar. Stewed fruit for breakfast should be started the night before. Soak it in cold water all night, then a short time over the fire next morning does the trick.

Careful planning for outdoor cooking before you leave home will save you many a headache in camp; save dollars, save time, save meals, and save your reputation as a cook.

Games on the Way

by LOUISE PRICE BELL

THEN the family travels by car, it is a good plan to have a few game ideas ready for use. It helps to offset tedium and possible boredom and affords opportunity for many a good laugh. They will be helpful in camp, too, to quieten young active people after strenuous and possibly exciting play.

Before leaving home invest in a few penny pads and pencils for each member of the family. They will occupy little space and can be tucked. into one of the car pockets.

Safety Recording—this game teaches each one to be observant and may have lasting good effects in observing safety rules and practices. The idea is that every member of the family must keep his eyes open for any careless unsafe driving seen en routeand then make a note of it with no word to the others. At the end of the trip, notes are compared, ways the un-safe acts might have been avoided are discussed, and small and appropriate reward offered to the person who showed himself to be most safetyminded.

In the Travel Game, one player "In my bag I packed some shoes," the next repeats and adds another article of clothing, the next another, and so on until the list is so long that it is difficult to remember all of the items. Anyone failing to name them all is eliminated.

The Rhyming Game is fun on a trip, because incidents revelant to it may be used, as some one saying:

"I think we're travelling very fast," another adding

"Oh dear! I hope our tires will last" . . . and the next saying:

"Our grand old car can't be surpassed"... and the next:

"But still she has an awful past."

If at any time, a player fails to rhyme his sentence with the preceding ones, he is dropped from the

Distance Game is played by one person picking an object far ahead on the highway and quickly telling how far away he thinks it is. The others give their estimates also and the distance is checked on the speedometer to see who is the most accurate.

Time to Make Jelly

Fresh, flavorful jelly keeps summer at your house all year 'round

NCE again the kitchen is overflowing with the aroma of fresh fruits, syrups, spices, jams and jellies. For, whether you use native and garden fruits and berries or "store-bought" fruits, it is jelly-making time in every home.

Jelly making isn't the time-consuming, tedious process it was once. With the use of packaged or bottled pectins now on the market, the home jelly maker is able to cut down on her jellymaking time. She can keep the flavor and color of the fresh fruit in every jar and, as well, get more jelly from the fruit at hand.

Bland fruits, such as saskatoons and cherries, and very ripe fruits of any type may need additional acid if they are to jell. Lemon juice adds flavor and is easily used.

Of course, the fruits that are high in pectin and acid need only sugar to make them into delicious wintertime jellies. Make them up while they are still slightly underripe if you would be sure they will jell.

Red Currant Jelly

2 qts. currants Sugar 1 c. water

Pick over and wash currants. Do not remove stems. Add water. Cover and simmer for 15 minutes. Put into jelly bag; drain overnight. Measure juice. Boil for 5 minutes then add sugar-34 c. sugar for each cup juice. Boil 3 minutes longer. Test for jelly. Pour into hot sterilized jelly glasses. Cover with melted paraffin.

Raspberry and Red Currant Jelly

4 qts. raspberries Sugar

2 qts. currants 1 qt. water

Wash currants; add water. Boil until juice from currants is extracted. Strain through jelly bag. Clean raspberries well. Mash, add 2 c. water and bring to boiling point. Cook until soft, slowly. Pour into jelly bag. Drain thoroughly. Measure juice. Bring to boil and for each cup of juice add 34 c. sugar. Boil briskly to jelly stage (5 minutes may be sufficient).

Cherry Jelly

3 c. juice 4 c. sugar Juice 1 lemon 1 box powdered pectin

Stem cherries (2½ lbs., fully ripe). Crush thoroughly. Add ½ c. water; bring to a boil and simmer, covered 10 minutes. Strain through jelly bag. Measure juice into large saucepan. Add lemon juice and pectin; stir. Place over high heat; bring to a boil, stirring constantly. Add sugar

all at once. Bring to full rolling boil. Boil hard ½ minute, stirring constantly. Remove from heat, skim, pour quickly into glasses. Paraffin at oncc. Makes 7 6-oz.

Black Currant Jelly

To each qt. black currants add 4 c. water. Crush currants and boil until soft and mushy. Strain juice through moist jelly bag. Measure juice and boil 6 minutes. For each cup of original juice add I c. sugar. Boil until juice reaches jellying stage (6 to 10 minutes). Pour into hot sterilized jars. When cool seal with paraffin.

Gooseberry Jelly

Pick slightly underripe fruit. Wash well. Add small amount of water and cook until fruit is soft. Strain through jelly bag. Measure juice. Heat to boiling, add 34 c. sugar for each original cup juice. Boil at rolling boil until jellying stage is reached. Pour in hot sterilized jars. Seal with paraffin.

Ripe Gooseberry Jelly 5½ c. juice 1 box powdered fruit pectin

To prepare juice, crush thoroughly about 41/2 lbs. or 3 qts. fully ripe gooseberries. Add 1-2 c. water and simmer, covered, 10 minutes. Strain through jelly bag. Measure juice. Place juice over high heat; add powdered pectin; mix well; stir until mixture comes to hard boil. Pour in sugar, all at once, stirring constantly. Boil hard 1/2 minute. Remove from heat; skim and pour quickly into hot glasses. Add paraffin at once. Makes 12 glasses.

Saskatoon Jelly

1 bottle liquid 3½ c. berry juice ½ c. lemon juice pectin 7½ c. sugar

Crush about 3 qts. berries. Heat until juice starts to flow; simmer, covered, 15 minutes. Strain through jelly bag. Measure 3½ c. into large saucepan. Squeeze and strain juice from 4 lemons. Add 1/2 c. to berry juice. Add sugar; mix well. Place over high heat, bring to boil stirring constantly. At once stir in liquid pectin. Bring to full rolling boil, boil hard 1 minute, stirring constantly. Remove from heat, skim and pour quickly into hot glasses. Paraffin at once.

Spiced Cranberry Jelly

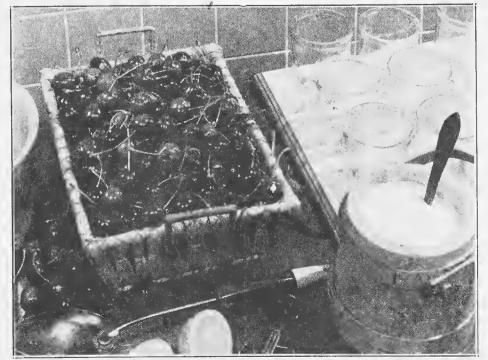
1 qt. cranberries 2 c. sugar

Small piece cinnamon

12 cloves 1 c. water

3 allspice berries

Tie spices in cheesecloth. Cook with berries and water until fruit is soft. Drain in jelly bag, add sugar and boil until it sheets from spoon. Pour into hot sterilized glasses. Cool and seal.



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Freezing Fruits

Continued from page 43

sides or tapered to a larger top. The straight, rectangular type is most economical in its use of storage space. A headspace of at least one-half inch is essential to prevent breaking of the seal.

Cartons can be re-used, a fact which partly justifies their slightly higher cost. The more expensive high grade carton with the plastic top and the still more expensive all-plastic container can be used several times.

Cellophane bag inserts in cardboard containers which were most popular at one time for fruits and vegetables are gradually disappearing. Pliafilm and polyethylene bags for fruits and vegetables, too, seem to be on their way out. Although they are reasonably priced they are hard to work with and it is difficult to get all the air out of the bags before sealing.

Ordinary glass jars can be used to good advantage in home freezers. There is no danger of breakage if an inch and a half of headspace is left in every jar. To use them in locker plants is contrary to laws governing locker operation, for if they are dropped or broken in the locker they may drip down into other lockers causing damage and spoilage.

FOR meats of all types and for corn on the cob, Dr. Shewfelt advocates the use of a good quality aluminum foil. It is easy to seal. It fits well around corners and in crevices. It is not easily torn or punctured even when very cold and it can be used

several times. It is worth the extra two or three cents it costs to ensure good storage for high-priced meats.

Heavy waxed kraft paper is most often used in locker plants. If the wax breaks away and the air gets in an off-flavor develops. Polyethylene bags and wrappings are better than waxed kraft but are not as efficient as the aluminum foil. Ordinary kraft paper used by butchers, and waxed paper should never be used. They are not sufficiently moisture-vapor-proof.

Label all packages and cartons carefully including a description of the food, the date of freezing, and, if the food keeps for only a short while, the date before which it is to be used. The description of the food would note if a special method of preparation was used, the variety of fruit or vegetable

or the cut of meat, and the weight of the contents, if necessary.

As soon as the food is packaged it is ready for the freezer. Again speed is essential. Place the food in the freezing section of the freezer as soon as possible. If for any reason, there is a delay, store the packages in the refrigerator but do not leave them there for more than a few hours.

There are differences of opinion on the importance of the speed of freezing once the food is in the freezer. According to tests carried out on frozen foods, says Dr. Shewfelt, in general, there is no significant difference in the quality of foods frozen from the outside to the center of the package in a half hour from the food frozen in 16 hours.

For storing keep the temperature within the freezer as close to zero

degrees Fahrenheit as possible. Although a five-degree temperature is permissible, storage above this point will decrease the life of the foods by as much as 75 per cent.

After testing and re-testing, specially trained women and men have developed freezing methods that ensure the best in color, texture, flavor and garden fresh qualities for fruits and vegetables. Clear, concise instructions, published in booklet form, are available to the public. For best results in your own home freezing read the instructions carefully, then follow them exactly.

Trickiest of all vegetables to freeze is corn on the cob. It is prepared as for immediate use then blanched up to 11 minutes. After cooling, each cob is wrapped in aluminum foil and immediately put in the freezer.

Choice of variety in corn is quite important. The hybrids, when frozen, lack flavor and are hard to get off the cob. A good choice would be Golden Bantam.

Simplest to freeze is rhubarb for it needs no blanching although it is treated as a vegetable. It is washed, cut up and packaged, then frozen. The only prerequisite is that it be young, tender, and freshly pulled. Green peppers freeze well and need no blanching. Frozen in small packages, they will add a touch of flavor to winter stews and casseroles. Cantaloupe, in the shape of melon balls or cut in wedges, is easy to freeze and is delicious in winter salads. Apples, however, are poor freezers and even for a good apple pie must be baked before it is frozen-the only fruit pie that is treated in this way.



Moisture-vapor-proof packaging methods include: (1) glassine-lined cylindrical cartons; (2) roll of cellophane; (3) sheets of aluminum foil; (4) and (5) rectangular cartons with transparent liners; (6) tapered waxed carton with plastic friction-type cover.

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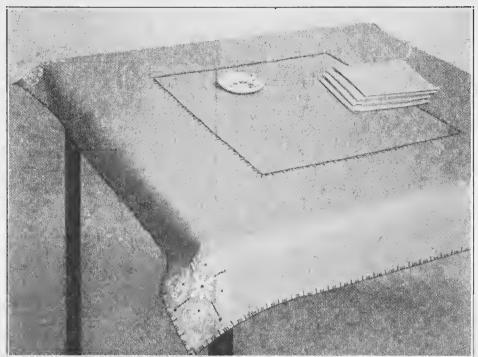
P.S. Tide's also wonderful for dairy utensils—gets them *thoroughly* clean. Helps prevent milkstone . . . lowers bacteria count! So *thrifty* to use, too.



For Now and Later

Quick-and-easy crochet, embroidery and sewing ideas

by ANNA LOREE



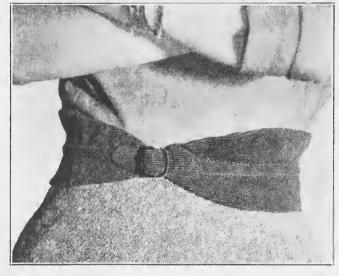
Design No. EE-6003

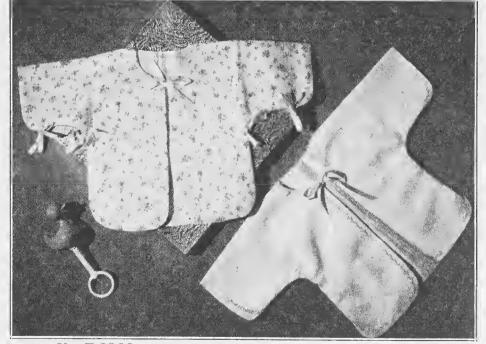
A tangerine-orange bridge cloth embroidered in black and white will add a colorful and modern note to your living room or dinette. The embroidery is simply done, the cloth and four serviettes quickly finished. Materials

required for bridge cloth and four serviettes include 1¾ yards tangerine butcher linen 36 inches wide with thread to match, 2 skeins white and 4 skeins black embroidery cotton. Instructions for cutting, embroidery and making are included in Design No. EE-6003. Price 10 cents.

Design No. SE-2445

A shaped belt such as this red corduroy waist cincher is the perfect accessory for a skirt - and - sweater ensemble. Any teen-ager will find it a handy addition to her wardrobe. Materials required include ½ yard narrowwale corduroy, a 16inch square of matching wool jersey for lining and a buckle 1% inches wide. Design No. SE-2445. Price 10 cents.





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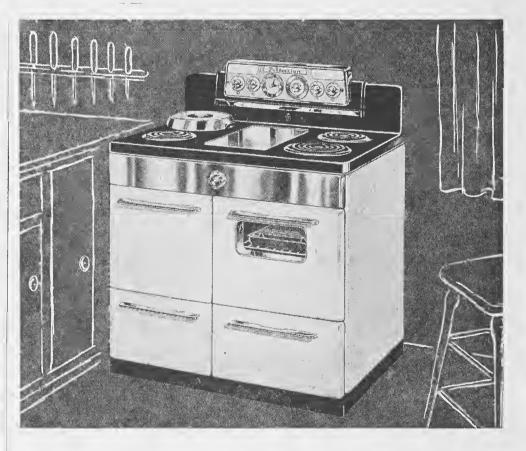
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The Countrywoman

Continued from page 41

not confined to developed countries. As more than half of the world's population and the bulk of its strategic resources are in these undeveloped areas. The stakes at issue are clearly vital to the security and well-being

The suggestion made by Arnold Toynbee, noted English economist, that: "The 20th century will be chiefly remembered by future generations, not as an era of political or technical inventions but as an age in which society dared to think of the welfare of the whole human race as a practical objective," was quoted by Mr. Pearson and described as:

"An exciting and challenging idea" -but we must remember that the 20th century means different things to different peoples.

Jam Leftovers by ELSIE McPHEE

TT seems sometimes, that it is impossible to use up the last bit of jam in a jar. The family's desire for jam seems to decrease in ratio to the amount in the bottle and when the jam is almost gone, so is the family's interest in

These recipes will help clean out the jar and get it out of your way, as well as provide family treats.

Jambles

Made with strawberry or raspberry jam, these cookies are party pink in color, and flavorsome. Try orange marmalade.

1¾ c. all purpose flour tsp. baking powder tsp. salt ⅔ c. butter $\frac{1}{2}$ c. fine granu-

1 egg, well beaten $\frac{1}{2}$ c. thick jam 1 tsp. vanilla ½ c. desiccated coconut

½ c. chopped walnuts

lated sugar Sift flour, baking powder and salt together twice. Cream butter, blend in sugar. Add egg, part at a time, beating after each addition, mix in jam, vanilla, coconut and walnuts.

Add flour mixture to creamed mixture a quarter at a time, combining thoroughly after each addition. Drop dough by spoonfuls on greased cookie sheets. Bake at 350° F. (moderate oven) for 15 to 20 minutes.

Trifle

Here you use leftover cake and jam to make a novel and cool, summertime dessert.

Fill a glass bowl with a layer of sponge cake (or any light cake). Cover with a layer of jelly or jam, then add more cake. Sprinkle over this a handful of shredded coconut and ½ c. chopped nuts. Make a custard by cooking in a double boiler 1 pint milk, 2 eggs, 2 tablespoons sugar until thick. To this custard add a pinch of salt and vanilla. Pour the custard over the cake, and jam mixture. When cold, serve with whipped cream.

Honey Bread Pudding

When making your bread pudding, use only the yolk of the eggs called for. When the pudding is nearly baked, spread it with a layer of jam. Then make a meringue with the egg whites not used in the pudding and spread this over the jam. Return to the oven and continue baking until meringue is nicely browned.

Jam stirred into standard butter icing adds interest, color and flavor to any

And don't forget that old favorite that will finish up leftover jam and still win



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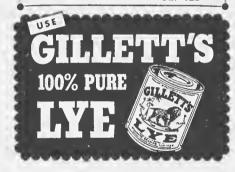
Lye also kills many germs, viruses, and parasites harmful to farm poultry and animals. Under normal conditions, lye cleaning is all that is needed to maintain flocks and herds in perfect health.
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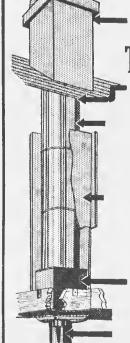
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Science for The Farm

Some strange, useful, significant or otherwise interesting items about science, food and food production

Six new antibiotics for fighting infectious diseases were recently reported; tetracycline, hygromycin, streptogramin, ruticin, streptocardin and methymycin. A seventh antibiotic called puromycin, which is under test as a tumor destroyer, was also reported. Another recently introduced antibiotic is called bicillin and is reported to be very successful in the prevention of rheumatic fever and in treating infections of the middle ear. Ten years ago, penicillin was the only antibiotic known to medical science, and there was none available for civilian patients. Today it is said that antibiotics account for more than onehalf of all prescriptions written in the

Cancer is less prevalent in meat animals than in man, principally because most animals are slaughtered before or just after reaching maturity. Cancerous meat is not known to be dangerous for human consumption, but is nevertheless condemned by government inspectors and costs the U.S. livestock industry \$2.5 million to \$3 million per year. For the year 1952-53, there were 10,235 cattle carcasses out of 15 million condemned, in addition to 25,608 cattle having cancer of the eye. Only 1,638 hogs were condemned, out of 57 million. U.S. meat inspectors do not classify the kinds of cancers

found in meat, but the largest number are from animals in which cancer of the eye has spread to other parts of the body, creating a condition known as metastasis.

Heptachlor is an ingredient in chlordane. Research workers in the U.S. Food and Drug Administration fed some of it to a cow. Inside of nine days a more poisonous derivative, heptachlor epoxide, was found in the cow's milk at a level of 1.8 parts per million, which meant a concentration of 44 parts per million in the butterfat where the chemical is concentrated. Heptachlor epoxide is toxic to mice, and might have been dangerous for children. Heptachlor and chlordane, therefore, should not be used around dairy barns and cattle pastures until more is known about the highest amounts cattle can eat without the chemical turning up in their milk. V

Viruses are the tiniest of all diseasecarrying organisms and, until recently, have not been visible, even under high-powered microscopes. Now, however, strands or ropes of the chromosomes of a virus have been positively identified with the virus they came from, for the first time. This was done by a freeze-drying method of smashing the viruses in an electron microscope. The virus worked with is one which infects bacteria.

Air May Prevent Famine

Nitrogen in the air means valuable fertilizer for food production

by JOHN WESTBURY

TITROGEN has existed from the beginning of time. For centuries it defied the efforts of man to utilize it fully, except as an essential part of air.

Nitrogen, invisible, odorless and tasteless, comprises nearly four-fifths of the air we breathe. The product now being made from it in factories in all of the world's more densely populated areas is known as synthetic nitrogen, and it is used as a fertilizer to enrich the soil.

Only 40 years or so ago, man didn't know how to extract this vital fertilizer from the air. To supplement existing supplies of fertilizers, farmers depended on imports of nitrates from the vast natural deposits of nitrate of soda which exist in Chile. Then, under the stress of war needs, scientists found they could take nitrates directly from the air by using artificial lightning. The discovery was a momentous one, and in every civilized country scientists and engineers worked together to build air nitrate plants which would manufacture their product artificially. In Scandinavia, Germany, the United States, Great Britain, France and Italy particularly, the problem was given exceptional priority.

Nature, of course, has been doing the job in her own inimitable way for the benefit of plant and animal lifehence human life-since the world began. Bacteria known as "nitrogen fixers" extract nitrogen from the air and turn it into vital compounds in the soil. But in nature's miraculous way the nitrogen is never lost. When plant and animal life die, various kinds of bacteria in turn, are employed by nature to convert the dead organisms into mineral nitrates and hence to release the nitrogen to return to the air. Then the cycle begins again.

Since scientists began using electricity—an "inferno of electric sparks" to take nitrates from the air, new methods of making synthetic nitrogen have been developed. By one method natural gas is used to make ammonia, a compound of nitrogen and hydrogen. This product, once in high favor as a household cleaner, is now a fertilizer in its own right, and is often used, particularly in the United States, in irrigation water or injected directly into the soil with knifelike nozzles, to improve the growth of crops.

Though nitrogen is used in numerous ways, it is as an invaluable fertilizer that the world needs it most. For the year ending June, 1953, world output at well over six million metric tons was more than 11 per cent above the figure for the previous year. But agricultural consumption in the same period rose by nearly 12 per cent, while the corresponding rise in industrial consumption was 14 per cent.

However great may be the future demand for this magical gas, scientists say the supply can never fail. The air alone contains 4,650.000,000 million tons - 4,650,000,000,000,000 - enough, say the experts, to last nearly a billion years at present consumption rates. V

Let's Use More Wild Fruits

Here are some suggestions to make your mouth water. Wild fruits are good

by RAY PETERSON

AVE you ever eaten dried, crushed chokecherries, pips included, mixed with rendered animal fat? I have, and to my way of tasting, the combination was quite palatable. While this Indian recipe may not appeal to many, it does, however, illustrate a point concerning wild fruits, namely, that the possibilities of wild fruits are seldom exploited as fully as they could, and should be.

The tart fruit of the pincherry can be made into a firm, bright jelly that cannot be equalled. What is more, this small cherry jells very easily.

While usually quite sour, you can occasionally find bushes that yield pincherries sweet enough to be readily eaten raw.

The pincherry's larger cousin, the chokecherry, is often permitted to go unharvested, except perhaps for the forays of school children, who don't seem to mind brown-stained teeth and puckered mouths. Its fruit makes a rich, tasty jelly, but it is not always a simple task to make it jell properly. If you like pancakes or waffles, however, forget about chokecherry jelly and use the berries for making a thick, flavor-crammed syrup. In my opinion, this chokecherry product is superior to all other syrups, maple included. It tastes good on hot biscuits, too.

Chokecherry juice blends nicely with other fruits. For an applesauce that is really different, add a liberal portion of chokecherry liquid.

Saskatoons are a popular wild fruit. This is due in part to their productiveness and easy picking. Saskatoons are good mixers, especially with acid fruits such as lemons and rhubarb. They make delicious pies and wholesome jams. Raw saskatoons with sugar and cream are a gala dessert. The dried berries may be used as a substitute for currants or raisins. Indians used them to pep up pemmican. A recipe that we like for this versatile fruit is a light cake or sweet bread to which fresh saskatoons have been added in the dough. I might add that wild gooseberries taste nicely in bread, too.

Come wild fruits are neglected because their flavor is a bit on the strong side. One of these is the wild black currant. As a boy, the writer transplanted a number of these hardy shrubs. Nearly all of them grew and eventually bore heavy loads of plump, g'ossy berries. Most of the family, however, did not enjoy the fruit. As a result, the currant bushes were soon forgotten.

Two seasons ago, I walked through those same bushes and noticed that

they were still producing large quantities of berries. As always, it seemed a shame to see so much fruit going to waste. Finally, from this sense of waste, an idea was born. Why not mix the currants with vegetable marrow? Equal proportions of marrow and black currants were found to make an excellent jam. There was no marrowish taste, and the currant flavor had lost its objectionable harshness.

Wild strawberries enjoy an undisputed claim as an elite fruit, but they are difficult to pick and clean. These chores tend to rob them of much of their glamour. The task of preparing them for the table can be considerably lessened, if the blossom end is removed as the fruit is picked from the plants. With a bit of practice this procedure doesn't slow the gathering very much.

Raspberries, blueberries, gooseberries, and the different types of cranberries are other common wild fruits that offer many tempting desserts, jams, and jellies. Recently, I sampled a jam that had a very fine flavor. It was made from dewberries.

Native fruits have a wealth of good qualities, in addition to their contributions to our tables. Many of them, such as the chokecherry and the saskatoon are fine ornamentals. They are a great attraction to wild birds. Some of them have hard, durable wood. Well-cured saskatoon wood, for instance, makes strong, tough hammer handles.

Pincherries, cranberries, and all the other native fruits are part of our western heritage. We should learn to know them intimately and to use them with greater scope and imagination. \vee



Horse-shoes by TIFFANY'S

AROUND THE END of the last century, when aluminum was practically a precious metal, a famous racing stable had one of its thoroughbreds shod with racing plates of the weight-saving material. They were made at Tiffany's, the famous New York jewellery house.

Nowadays it is standard practice for race horses to run on aluminum shoes. Since the turn of the century the price of aluminum has been reduced to the point where it is now one of the most economical of all materials, extensively used for things like barns and boats and bus bodies. Aluminum Company of Canada, Ltd. (Alcan).



CANADA PACKERS LIMITED

REPORT TO THE SHAREHOLDERS

The 27th year of Canada Packers Limited closed March 31st, 1954. (Hereinafter the year is designated 'Fiscal 1954'.)

Tonnage (pounds of product sold) again reached a 1,932,000,000 lbs.

The previous high (Fiscal 1953) 1,859,000,000 " Equivalent to

3.9 per cent.

The Annual Report for Fiscal 1953 showed a decrease in Dollar Sales in the face of an increase in Tonnage. This year the pattern is repeated.

> Dollar Sales, Fiscal 1954 ______\$374,000,000 " " 1953 _____ 386,000,000 Decrease _____ 12,000,000 Equivalent to ______3.1 per cent

The explanation lies in the continuing decline in price of certain of the products handled by the company. The trend of the last three years is revealed in the following table:

TABLE I

Fiscal	1952	
".	1953	
"	1954	
Declin	ie ('53	3 to '54)

Tonnage	Dollar Sales	Average price per lb. of all products
1,708,000,000 lbs.	\$390,000,000	22.8c
1,859,000,000 lbs.	\$386,000,000	20.7c
1,932,000,000 lbs.	\$374,000,000	19.3c
Per pound		1.4c
Equivalent to		7 %

N.B.—Each year prices of some products decline while others advance. The decline of 1.4ϕ per lb. average has no significance in respect of any individual product, but is a sufficiently accurate measure of the over-all trend.

Net Profit for the year was \$3,702,020

 Net Profit, Fiscal 1953
 4,400,598

 Decrease
 698,578

The Net Profit, expressed as,-

i.e. just under $1/5\phi$ per lb.

Table II below, giving the record of Sales and Net Profits for the past ten years, shows that, for the ten-year period, Net Profit has been .93% of Dollar Sales. In respect of Net Profit, therefore, the year under review was slightly better than the average of the last ten years.

TABLE II

Fiscal Year	Dollar Sales	Net Profit	Net Profit as Percentage of Sales
1945	\$228,000,000	\$1,825,000	.80%
1946	209,000,000	1,817,000	.87%
1947	204,000,000	2,060,000	1.01%
1948	238,000,000	2,182,000	.91%
1949	314,000,000	2,807,000	.89%
1950	328,000,000	3,480,000	1.06%
1951	357,000,000	4,126,000	1.16%
1952	390,000,000	1,965,000	.50%
1953	386,000,000	4,400,000	1.14%
1954	374,000,000	3,702,000	.99%
Average, 10 years	\$303,000,000	\$2,836,000	.93%

For the 27 years since Canada Packers was formed, the corresponding figures are:-

Average, 27 years

\$170,000,000

\$1,863,000

1.09%

NOTE: Shareholders are reminded that throughout the 27 years, reserves have from time to time been reported, which have not been recorded in the Earned Surplus of the Company. These reserves include:—

- (a) Wartime Inventory Reserve, -sums set aside from year to year during the war and post-war period. These sums have been fully explained from year to year in the Annual Reports of the Company. In total they constitute the chief item in the reserves. They \$6,000,000 now stand at a total of.....
- (b) Sundry minor reserves accumulated from time to time throughout the 27 years.
- Increase in market value (above cost) of shares owned by Canada Packers in other corporations. The investments are in sound companies dealing in basic Canadian products. Capital appreciation varies up

and down with market fluctuations, but the reserve has become a substantial one.

On all these reserves, full taxes have been paid. They could properly be recorded as profits. However, the more conservative policy has been followed of carrying them forward as reserves. They constitute a cushion against major price declines, and would justify a continuation of dividends throughout a limited period of unprofitable operations. The reserves include the equity, in excess of price paid, for wholly-owned subsidiaries. There are now six of these subsidiaries.

However, if the other course had been followed and if all reserves were now set up as profits, the net for the 27 years would be,-not 1.09% (as appears above), but 1.31% of sales.

This is an important figure.

It is the measure of the Company's total profit,—the fee which Canada Packers has received for its services in processing the live stock and finding markets for the meats and the by-products.

That some margin of profit is necessary goes without saying. Without expectation of profit, the very large sums required for plant and working capital would not be forthcoming.

Is the margin, then, too large or too small?

One answer is that it is much the lowest percentage of profit (relative to sales) of any major industry in Canada.

Moreover, if no profit whatever were made, the benefit to the producer or to the consumer would be negligible.

For example, choice steers are today selling for approximately 20¢ per lb. live weight. If the packer made no profit, and if the 1.31% went entirely to the producer, he (the producer) would receive an additional $4/\phi$ per lb. (1.31% of 20¢ equals .26¢)

On the other hand, if the packer's profit were divided evenly between producer and consumer, the producer would receive for his steers 20¢ plus ⅓¢ per lb.°

It may be asked how the Packing Industry exists,-and even prospers,-on a margin of net profit so much smaller than that of other industries. The answer lies in the rapid turnover of capital. Capital employed in the Packing Industry is turned over approximately seven times per year. Therefore, a profit on turnover of 1.31% is equivalent to a profit on capital of just over 9%. A review of the Live Stock Industry in 1953 would be incomplete without reference to a factor which has taken all sectors of the Industry by surprise (producers, processors and Department of Agriculture officials).

It is the startling diminution in exports of cattle plus beef.

For Canada's surplus of cattle plus beef, United States normally is almost the sole market. During the war and immediate post-war period (September 1942 to August 1948), by agreement between London, Ottawa and Washington, Canada's total surplus of Beef was shipped to the U.K. However, this was due to strategic, not economic, considerations. The U.S. market was reopened to Canadian Cattle and Beef August 16th, 1948, and since that date almost the entire surplus has gone to the United States. (Small but regular and very welcome orders come from B.W.I.)

Since August 16th, 1948, shipments to United States of cattle plus beef,expressed in terms of beef,—have been as follows:

TABLE III ‡

Shipments to U.S. of Beef Cattle plus Beef (Cattle converted on basis 500 lbs. beef per head) 1948 (Aug. 16 to Dec. 31) 234,834,000 lbs. 1949 253,995,000 262,749,000 1951 176,777,000 1952 (Jan. 1 to Feb. 25) 5,083,000 1953 (Mar. 2 to Dec. 31) 28,428,000 1954 (Jan. to May, incl.) 18,941,000

‡Source: Department of Agriculture, Ottawa. Livestock Market Review and Livestock and Meat Trade Report. (Live cattle exports converted at 500 lbs. per head.)

Note (1) From February 25th, 1952, to March 2nd, 1953, shipments to U.S. were embargoed, due to foot and mouth disease. During that period the surplus beef (in excess of domestic consumption) was purchased by the Federal Government and sold,—at heavy loss, to the U.K.

> (Exports of meats during the 'foot-and-mouth' period are not shown in Table III, as they are entirely detached from the regular channels, and therefore without significance in relation to the trend under discussion.)

• The illustration is not followed through to the consumer, as it becomes complicated by the fact that another link in the livestock chain,—viz. the retailer,—intervenes between packer and consumer.

Note (2) For 1953 the shipping period was ten months. The surplus for twelve months may be estimated at 35,000,000 lbs.

We are, therefore, faced with these startling facts:

In 1950, exports of cattle plus beef to United States were 262,000,000 lbs. As a result, cattle prices in Canada throughout that year were based upon prices for similar grades in U.S.,—(with corrections for freight, duty and exchange).

In 1953, only three years later, exports of cattle plus beef had declined to a trickle of

35,000,000 lbs.

And on certain grades of cattle, over quite extended periods, prices in Canada were actually higher than in United States.

The reasons for this startling transformation are to be found in Table IV, below.

TABLE IV*

	A	В	С	D
	Canadian	Estimated	Consumption	Total
	Inspected Cattle	Human	of Beef	Consumption
	Slaughterings	Population	per capita	
1948	1,489,883	12,823,000	57.5 lbs.	737 million
1949	1,439,489	13,447,000	56.5	760 lbs.
1950	1,284,683	13,712,000	50.3	690
1951	1,149,789	14,009,000	44.1	618
1952	1,237,630	14,430,000	44.7	645
1953	1,469,406	14,781,000	59.1	875

• Source: Slaughterings: Department of Agriculture, Ottawa. Livestock Market Review. Population: Dominion Bureau of Statistics. Canadian Statistical Review. Beef Consumption: Dominion Bureau of Statistics Memoranda.

A decline in surplus must come from one or both of two causes,-

(a) decreased production, or

(b) increased consumption.

As between 1950 and 1953, the decline in surplus is clearly not due to decreased production. Inspected slaughterings		
(Column A above) in 1950 were	1,284.683 1,469,406	

Therefore, the decline must be due entirely to increased consumption. That increased consumption, in turn, is due to two causes:-

(1) increase in human population (Column B above)

(2) increase in consumption of beef per capita (Column C above).

In 1950, Canada's population was estimated at 13.712.000 and consumption of beef per capita at _____ 50.3 lbs. 690 million lbs. Total (estimated) consumption of beef In 1953, the estimated population was _____ 14.781.000 and consumption of beef per capita _____ 59.1 lbs.

Total (estimated) consumption of beef

874 million lbs.

Is Canada approaching the time when she will cease to be an exporter of

Ten years ago such a question would have appeared fantastic.

692.000.000	lbs.	bacon
98,000.000	lbs.	beef
790,000,000	lbs.	meats
35,000,000	lbs.	
78,000,000	lbs.	
113,000,000	lbs.	
	98,000,000 790,000,000 35,000,000 78,000,000	692.000.000 lbs. 98,000.000 lbs. 790,000,000 lbs. 35,000,000 lbs. 78,000,000 lbs. 113,000,000 lbs.

This comparison, taken by itself, would seem to indicate that exports of meats might soon be a thing of the past.

However, one fact remains which tends towards an opposite view. Canada still produces a heavy surplus of grains. The carryover at the end of this crop year will be the largest in history. At the same time the markets abroad for wheat appear to be shrinking.

On Canadian farms the most perplexing problem is how to convert into cash, grains for which there is no immediate export outlet. To this problem there is, at the moment, only one solution, viz. to convert the grain into secondary food products:-cattle, hogs, poultry and dairy products. Every fact points to a substantial increase in these secondary products throughout the next two or three years.

It is difficult to look ahead for a longer period. The trend, whatever it is, will gradually reveal itself.

J. S. McLEAN,

Toronto, July 5th, 1954.

In 1944 Canada exported:-

President.

bacon

Extra copies of this report are available and, so long as they last, will be mailed to anyone requesting them. Address request to Canada Packers Limited, Toronto 9.

C.F.A. Holds Semi-Annual Review

Meeting at Amherst, Nova Scotia, The Canadian Federation of Agriculture reviews economic conditions and considers current farm problems

IKE most of Canada's national organizations, the Canadian Federation of Agriculture moves its annual and semi-annual meetings from one to another of our great geographical regions - the Maritimes, central Canada, the prairie provinces, and British Columbia. Within these regions important areas are privileged to play host to the Federation about twice in fifteen years, once at the time of the annual meeting held in January and again for the semi-annual meeting held in July.

This year the latter was held in Amherst, Nova Scotia, which is very suitably located near the New Brunswick boundary and convenient to the ferry going to Prince Edward Island. It is also within six miles of the Nappan Experimental Farm, one of the five originally established in 1886 (the others being Ottawa, Brandon, Indian Head and Agassiz), where the daylong open sessions were held on Tuesday, July 27.

The interim report of the secretary, David Kirk, provided a brief review of the work of the C.F.A., on behalf of Canadian farmers during the first half of the year. Included were representations made to appropriate federal departments, or commissions, on such subjects as tariffs, sales and income taxes, alsike clover seed, honey uncapping machines, bird scaring devices and poultry and hog equipment. The Federation was represented at special meetings, conferences and hearings, which included a North American IFAP regional meeting, a farm machinery industry conference, a resources conference at Ottawa, the IFAP Conference in Kenya, South Africa, the National Farm Radio Forum Conference, a hearing before the Board of Transport Commissioners on level crossings, a C.F.A. national meeting called to discuss the proposed national meat council, and many other meetings and consultations with federal officials on a wide variety of matters including immigration, restrictive trade practices, farm income tax averaging, hog grades and differentials, and the threatened strike of railway workers.

In addition to this imposing array of work, the Ottawa office also reported on the disposition of the large number of resolutions passed at the last annual meeting held at London, Ontario. The 4,000-word report in this connection, covered at least 25 subjects of general importance to Canadian agriculture.

An outlook report was provided by Dr. E. C. Hope, economist for the Federation. Here are a few of the highlights, in capsule form: The total Canadian supply of wheat this year could be the largest on record, and the same seems likely to be true also of the United States, and of world supply . . . A record supply of barley will also be available in Canada during 1954-55, but oat supply will be more nearly normal . . . Domestic use of oats and barley may well be 25 per cent greater than last year owing to larger numbers of livestock and poultry . . . Increased marketings of livestock are likely to continue into 1955 and inspected slaughterings in Canada this year may be 20 per cent above last year. Though hog marketings, both in Canada and the United States, are likely to be heavier from now until the end of 1955, hog production, though less profitable than during the last 12 months, will still be reasonably profitable owing to the large supplies of all grains in North America . . . Total milk production will be up about four per cent this year, and butter stocks were up about 14 million pounds on July 1, over a year ago: stocks next May 1 are likely to be even higher than the record amounts held on May 1 this year . . . World dairy production seems to be increasing a little faster than demand. Canadian prices during the next 12 months may suffer because of stiffer competition in the export market . . . Egg marketings have been about eight per cent higher than a year ago, and chicks hatched up 15 per cent, while the turkey poult hatch was up 37 per cent . . . Due to large supplies of home-grown grain on hand, prairie farms will probably provide most of the poultry and egg increase from now on . . . The net income of agriculture in Canada is likely to continue its slow decline over the next 12 months, though the recession which has been in progress since June, 1953, appears to have run its course . . . Using official D.B.S. figures for the eight-year period 1946-53, real income per non-farm worker averaged \$2,258, as compared with \$1,796 for the average farmer and his unpaid family labor (all farms, of all sizes, numbering 663,000).

The C.F.A. National Poultry Committee met the day before meetings began, and brought in recommendations dealing with floor prices for poultry meat and eggs, as well as grades. These, and other matters to be mentioned here, will be more fully dealt with in later issues. The meeting also had before it proposals for the revision of hog grades, as well as the question of live grading for export where hogs are routed through public stockyards. There was also the attitude of the C.F.A. toward the proposed Canadian meat council, designed to promote the consumption and use of red meats. This matter was laid over for final decision at the annual meeting.

There was also before the semiannual meeting an interim report from the C.F.A. National Farm Policy Committee, appointed a year ago to draw up for consideration a comprehensive farm policy statement. The interim report, which dealt only with principles, objectives, marketing, price support and surplus disposal, will probably be dealt with finally at a special meeting of the Board. The meeting also had before it certain proposals with respect to the Federal-Provincial Agricultural Conference, held at Ottawa each December.



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Play It Safe On the Farm

Farm safety field day at the Ontario Agricultural College, demonstrates that many of the hazards can be taken out of farming

by J. POS



Only this specially built boom saved this operator, who tried to climb out of a mud hole by anchoring the drive wheels to a cross pole.

THE first Ontario Farm Safety Field Day, well illustrated by live demonstrations, attracted a large farm audience at the Ontario Agricultural College, Guelph, and presented safety in a way that will long be remembered by those in attendance.

The Farm Fire Fighting Committee demonstrated the causes of fires in the home, the outbuildings, and around farm machinery. Emphasis was placed on the effectiveness of readily available fire-fighting equipment in extinguishing oil, gasoline, electrical, and spontaneous-combustion fires. The oil and gasoline fires were ignited with long safety matches in safe open tanks, while the spontaneous-combustion fires were stimulated by use of chemicals. A small amount of potassium permanganate and glycerine were mixed to produce a natural spontaneous ignition fire within five to ten minutes. Stray ignition sparks passing through vapors of spilled gasoline (premixed with butane) started a tractor fire that made a realistic demonstration.

Proper use of various types of commercial extinguishers, which are inexpensive and readily available to all farmers, were demonstrated. The shortcomings of non-volatile liquids on a windy day was well demonstrated on the oil fires, as nature co-operated to provide a breeze which carried the vapor away and prevented the smothering action which would normally extinguish the blaze.

To show the adaptability of farm machinery for combating farm fires, a standard orchard sprayer with capacity equal to 20 gallons per minute, was fitted with a high-velocity, triggeractuated nozzle. The nozzle was able to produce a 30-degree fog cone, as well as a jet stream. Also, the use of a portable irrigation pump, fitted with a low-velocity nozzle was demonstrated. Fires in advance stages were used to illustrate the effectiveness of irrigation pumps and orchard spray equipment for farm fire fighting.

Bulls and other animals were used in demonstrating livestock safety. Handlers demonstrated the proper use of a staff for leading the herd sire, and the lack of control when using ordinary halters and lead ropes.

Hazards in the operation of farm machinery were realistically demonstrated with the use of life-size dummies and a variety of machinery used on most farms. Such common accidents as children falling from a tractor under trailing implements, the danger of operating a tractor in an orchard, and the risks of adjusting machinery while operating, were vividly depicted on tractors, hay balers, and corn pickers. A whirling, splattering, sawdust dummy reminded spectators of the dangers of an unguarded P.T.O. shaft. The hazards of dressing moving belts and the potential dangers of loosely fitted clothing were also driven home.

A safety switch was demonstrated, which turned off the ignition when the operator fell from the tractor.

The tractor-tipping demonstrations

were the feature presentations. Since most tipping accidents involved rowcrop tractors, that type of tractor was selected for the demonstrations. A real live person operated the tractor, which was more effective in shocking the crowd into realizing the dangers of improper handling. However, the operator was protected from serious injury by the use of safety devices.

An outrigger wheel, bolted to the frame of the tractor, limited side tips, to about 20 degrees. This was 15 degrees below the critical, lateral, tipping angle, and allowed a reasonable factor of safety for the inertia of the tractor. With experience, the tractor operator found that he could hold the tractor in a tipped position temporarily, by manipulating brakes, steering

and speed.

The triangular outrigger frame was constructed of six-inch channel iron throughout, and fitted with a 16-inch rubber-tired implement wheel. The all-welded frame was firmly bolted to the underside of the tractor frame, as far forward as the front wheels permitted. It extended to the right side of the tractor about four feet. Even with this protective attachment, care had to be exercised to prevent the tractor from turning over completely, on sharp turns at high speeds.

The safety boom was designed to protect the operator on backward tips. The framework was welded together, using three-inch pipe and the special braces were bolted to the rear axle and the front of the tractor frame. The top) cross bar limited backward tips to an angle of 65 degrees. During the highhitch demonstration, the framework served, primarily, as a safeguard, because the operator was able to check backward tips at 55 to 60 degrees, by skillfully riding the clutch and holding the tractor in position with the brakes. The front end was gently lowered by merely disengaging the clutch and controlling the rate of descent with the brakes.

(Note: Professor Pos is faculty advisor to the agricultural engineering students, at the Ontario Agricultural College.)



Top left: When the tractor hit the boulder at seven m.p.h., only the outrigger wheel saved tractor and operator from tipping over. Top right: Safety outrigger wheel designed to prevent the tractor from rolling over during tipping demonstrations. Bottom left: High hitches are often used to increase traction with heavy machinery, but a dangerous loss of stability is the usual result. Bottom right: A bag of sawdust caught on an unprotected P.T.O. shows the devastating effect of a whirling shaft.

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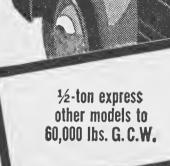
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Animal **Barometers**

Some evidence that animals really do know when the weather is about to change

by BRIAN MASON

VERY winter, casualties are caused among birds, small mammals and domestic animals, by severe conditions. An interesting study is how birds and beasts react when such conditions are approaching. Observers speak of their restlessness, and say they seem to possess some kind of foreknowledge of coming changes in the weather.

Centuries ago, shepherds remarked how their sheep seemed to know when a change in the weather was about to occur, proving that the instinct is not confined to wild creatures. Domestic animals possess it too - a survival, no doubt, from the times when they were wild. Mr. Cherry Kearton, a naturalist, after spending some time among the 5,000,000 penguins on the island of Bassen, off the shores of Western Africa, wrote of

their highly developed weather in-

To a certain extent, human beings have a similar foreknowledge - particularly when the air is highly charged with electricity. When a thunderstorm is approaching we often sense it some time ahead; and the rheumatic twinges which sometimes afflict us when rain is on the way are frequently true weather indicators. But it cannot be said that human beings have the same uncanny sense of weather variations that birds and animals, and even insects, have.

Two very common birds, the rook and the seagull, have this remarkable gift. The latter is most frequently seen inland during the winter months; and before the approach of sharp weather they are extremely agitated, and will fly about in an unsettled fashion. Cold

makes them tame, but observers have noticed how, on many occasions, even before meteorologists announce the break-up of a cold spell, the gulls know and return to their haunts.

Rooks are regarded as almost infallible weather forecasters, and there are numerous country sayings referring to this. If, for instance, the rooks leave off building their nests, snow is imminent. If, on the other hand, they congregate in the fallows in summer and remain motionless till dark, country people tell us they are "saying their prayers," and fine weather will be experienced next day. Again, they sometimes rise to great heights and then dive down in a gyratory fashion, nose-dive, and then sweep upwards. The evolutions, which the birds seemingly enjoy, usually occur toward the end of a spell of fine weather and forecast its break-up.

In Britain, in autumn, the appearance of redwings from Northern Europe is a sign of the coming of cold weather. It is said that they flee before frost and snow. Likewise, in the United States, woodcocks will flee when cold weather approaches, migrating to a warmer part of the country. Wild turkeys and grouse in that country also seem to possess sensitive barometers. Deer are equally gifted. Even before the end of a storm they will leave their shelters, and a few hours later the sun will shine. In contrast, when there is no sign of bad weather they will often seek some remote sanctuary, feeling that storms are on the way.

TT is remarkable to find that domestic animals have preserved this instinct, which is very strong in sheep. Shepherds say that, sometimes three or four days before snow, their charges become unsettled, and when driven down to pens they avoid the hollows where drifts are likely to accumulate. Mountain sheep will make their way down to the valleys on their own accord. Pigs race about with straw in their mouths, and the country saying is they "see the wind." Donkeys are noisy, and in the fields the cattle will butt each other and run about in wild

Cats are sensitive to weather changes. An old wife's tale asserts that when they sleep with their backs to the fire and with the back of their heads to the ground, it is a certain forecast of rough weather.



POPULAR OUTDOOR EDITOR OF THE WINNIPEG FREE PRESS SAYS...

We hunters in western Canada take too much for granted. We don't realize what duck shooting is all about in these fields and

Here's what prompted this line of thought. My telephone rang about 1 a.m., one morning last season. It was a friend from Toronto wanting a duck shoot on one of our Manitoba marshes. This was soon agreed to and we took off the next morning.

We had quite a deal. I had taken Jack Mahoney's Marsh Queen—a 40 foot boat— into the heart of the Netley marsh, 30 miles

from Winnipeg. Sleeping accommodation and food was aboard; we had everything, but I thought the ducks were scarce. However, my friend thought otherwise.

He had more birds in an hour than he normally shot all day.

"Stan", he remarked as we tucked away an evening meal, "this is shooting".

"What do you mean?", I asked.

"We don't get shooting like this in my part of eastern Canada. I've shot ducks all day and ended up with one or two birds and shots are few and far between. I've also shot ducks on Alberta stubble, but this marsh shooting here is something you have to do to believe.

"The cripples in this marsh must amount to a lot of lost ducks", my friend mused. "I tried for clean kills today but I guess I lost my share of birds".

"Yes," I agreed, "cripples are an important item in any conservation programme and I've given it a lot of thought. That's why I was glad when the "Pressure-Sealed Crimp" shot shell was introduced on the market. This shell cuts down cripples on long range shooting. The uniform patterns are concentrated to make the hunter kill clean or miss far more often that he ever did before their introduction.

"They're a big boon to conservation generally, but the sealing of the crimp to ensure maximum water resistance is something more to the marsh hunter. In the old days, too many shells were thrown away because they absorbed water and wouldn't fit in a pump gun."

TAKE A TIP FROM STAN BENTHAM, popular outdoor editor of the Winnipeg Free Press. For more effective shooting, cleaner kills and fewer cripples use C-I-L Shot Shells featuring the exclusive "Pressure-Sealed Crimp".





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The Country Boy and Girl



Little moments make the day— Swift they come, swift pass away; Take them, use them, don't delay, Tick, tick, tick, tick!

Long ago before there were any clocks or watches, men told time by the sun. When shadows were long toward the west, it was before noon; when they were long toward the east, it was after noon; when the shadows were very short or when there were no shadows, it was noon. Or they might tell time in this way: when one man asked another how long a certain

time was he might reply, "As long as it would take a woman to grind a measure of corn," or "As long as it would take a man to run a mile."

Later men made sundials (such as the one you see in the sketch) to tell time more accurately. They set a circular metal plate outdoors on a pillar. They divided the circle into parts and in the center of it they placed a short rod so that the shadow from it would point to the time of day. The shadow moved about the circle as the sun moved across the sky.

Then church bells were used to ring out the hours, each quarter of an hour was sounded in a different way. Many old churches in Europe still have bells which

ring out the time in this way.

The first clocks were large machines that would fill a room and usually they were placed in churches. After a time people began to have clocks in their homes, they were taller than a man and were called grandfather clocks. Often these grandfather clocks were marked so that you could also tell the day of the week, the day of the month and the month of the year.

Gradually clocks became smaller and smaller for use in houses and last of all came the invention of watches, which are really clocks made small enough to wear.

ann Sankey

Queen Magnolia

by Mary Grannan

SHE was a ship. A good ship! She had sailed the seven seas 70 times seven. Rich men, poor men, beggar men, thieves, doctors, lawyers, Indian chiefs had walked her decks. She was known and respected in all ports of the world. She had seen many things in her day. In India, elephants had brought cotton to fill her holds. In Persia she had seen the Moslems, facing the east, and bowed in prayer. In Brazil she had seen the wide coffee plantations and had scented the rich aroma of their harvest. In Ireland she had listened to the soft brogue of the dock workers, as they loaded her with linen.

Now she was riding easily into her home port. Another job had been well done, and Queen Mag felt happy. But her happiness turned to dismay, when she heard her stokers talking to one another. "It's a sad day for the Queen," said Steve to Owen, as he heaved the coal into the furnace.

"It is that," said Owen, "and it's glad I am that she doesn't know that she's being scuttled."

"It would break her heart, if she knew," said Steve.

"You're filling her up, and we're almost into the harbor."

Steve looked at Owen and winked. "I know it," he said, "but it's the last good feed Queen Mag will ever get. I'm not going to have her end her days with an empty stomach."

Queen Mag gave a sudden forward lurch, as if she were trying to run away. The big ship had heard every word that had been said.

The captain, noting her uneasiness, shook his grey head and said to himself, "It can't be that Queen Mag knows." He laughed, "But how could she know? She can't hear. She can't think. I've been with her so long that

I've come to think of her as a person." He sighed. "My heart breaks for her. But what else can the company do? People prèfer the new and modern ships. And Queen Mag's a 'has-been.' Her time has come."

But Queen Magnolia had different ideas. She would watch her chance. She knew her own strength. She could break anchor. Steve and Owen had been kind. They had filled her fireboxes to the brimming, and once unloaded and empty, she could pull away. It was not her intention to endanger any of her sister ships, or smaller crafts that might be entering the harbor. She would sail away toward the north. The winds had been kind to her through the years. In the northern seas she would meet fewer travellers, and she could drift away her life, in peace.

That night, the moon was full. Queen Mag made her greatest effort. She broke anchor in the quiet of the night. Off she went, sailing along with her usual dignity, toward the open

A coastguardsman saw her, and said to his petty officer, "That's funny. There goes Queen Mag. I thought she'd made her last trip and was going to be scuttled."

"You must have heard wrongly," said the petty officer. "There she goes, full steam ahead."

"Then they must have turned her into a freighter, because I happen to know that there's no passenger list," said the coastguardsman.

The petty officer laughed, "You don't suppose that she found out that she was going to be scuttled, and she's running away!"

"Don't let your imagination run away with you, Bill," said the other. "You're talking as if Queen Mag were a person."

"She's always seemed like that to me," said the other man. "But of course I'm wrong." But he wasn't wrong. Queen Mag was grateful when she saw the coast-guard boat head back toward the docks. Three days later, she began to feel hungry for coal, and knew that within a short time, she would be prey to the winds. That afternoon as she tossed idly about, saving what was left of her fuel, she heard a frantic call for help, coming over her wires.

A Norwegian ship, *The Christina*, had struck an iceberg, and was sinking fast. She had seven hundred passengers and crew aboard. Queen Magnolia knew that if she went to the aid of *The Christina*, her own freedom would be lost. Yet she gave no thought to herself, and hurried toward the sinking ship.

Soon, all on the ill-fated *Christina* were aboard the Queen Mag, and safe. The bewildered captain could not believe it, when he discovered that no one was aboard Queen Mag. He sailed her back to port.

News of Queen Mag's gallant behavior had been radioed ahead, and when she docked, she was besieged by reporters and photographers.

"You say she came steaming toward you at your first SOS, Captain," said one reporter. "How do you account for it?"

"It is my belief," said the captain of *The Christina*, "that Queen Mag had learned she was going to be scuttled. That was more than a proud ship could bear. She had gained her freedom, but our need was greater than hers, and she came to our rescue."

"But that sounds rather like a fairy tale, doesn't it?"

"Can you think of a better answer?" smiled the man from Norway. "And you can print this. Queen Mag will not be scuttled now. I intend to take over her command. She will again sail the seven seas.

Sketch Pad Out-of-Doors

No. 30 in series—by CLARENCE TILLENIUS



ONE afternoon in Prince George, B.C., while sitting in the car waiting for a friend, I noticed an interesting cut-bank near the railway track and went over to investigate.

The cut-bank formed one side of a gravel pit and might not have been in itself interesting but the color and pattern were striking. The sloping banks of reddish yellow clay and gravel with heaps of small stones at the bottom of the slopes and the dark overhanging edges of the turf above contrasted pleasingly. Above the bank the sunburnt grass made a band of neutral color between the gravel bank and the deep blue sky, against which some dead poplar trees and a few saskatoon bushes, already showing tints of autumn, were silhouetted.

There were several large holes, dug by skunk or woodchuck in the bank. I remember thinking what a fine picture it would make if a red fox were to suddenly leap down onto one of the stones in the foreground. Needless to say, no fox appeared while I was there. This is usually the case and so you must be prepared to draw what is there and hope for the sketches later.

Many pictures are brought about in this way. Perhaps you have seen and sketched a landscape, which is not complete in itself but would make a fine setting for an animal picture. A week—or more likely, a year or two later, you may be lucky enough to see and sketch an animal in just the right pose to complete the picture. Now, if your sense of design is good, you can re-draw the landscape and set the animal in it just as he would appear in nature. And there you have one of the secrets of getting "life" into a picture.



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Food and Population

A n increasing number of people are now concerned about the possibility of insufficient food for the world's people in the years to come. That there is plenty of circumstantial evidence to justify this concern does not, in itself, guarantee calamity, because if future food supply is uncertain, so also must the knowledge and circumstances of the future be uncertain. Nevertheless, with the knowledge presently available, the adequacy of future food supply may well be in doubt.

Speaking recently to the Agricultural Institute of Canada, Sir James Scott Watson, chief scientific adviser to the British Ministry of Agriculture, believed that the world is now about as well fed as in 1939, and that a doubling of world population might take place "well within the lifetime of children already born." The latter statement is predicated on the understanding that world population has already doubled three times since the birth of Christ—twice since 1650 and once since 1850—which suggests that the next doubling will occur well before 2050.

The balancing of population and food supply is probably impossible by increased food production alone. Certainly the present rate of increase in the efficiency of land use is insufficient for the task. It may be that ways will be found to stabilize the populations of individual countries by raising standards of living, and thus, as it appears, reducing the size of families. A fundamental difficulty, however, lies in the fact that the problem is most acute in the underdeveloped countries, where families tend to be larger and the food problem most acute.

This fact suggests the urgency of measures by other countries to help such heavily populated, backward countries. To give them food in adequate amounts would be both impracticable and harmful. To arbitrarily urge, or attempt to enforce population control, would be foolish and disastrous. Technical assistance toward increased food production in underdeveloped countries, while desirable and helpful, will not solve the problem. The basic requirement for a steady and continuing rise in living standards appears to be industrialization and urbanization. Productive work for all and a substantial exchange of goods with other countries is the only certain recipe so far evolved since the slavery of captive peoples was outlawed in the family of nations.

To develop a variety of industries in needy countries almost certainly requires heavy investment by wealthier countries. The wealthiest country in the world today is the United States, where six per cent of the world's population enjoy 40 per cent, or more, of the world's annual income, as compared with 17 per cent of world income in Asia, Africa and Latin America combined.

The problem cannot be loaded onto the shoulders of any one country, however, regardless of how wealthy it may be. The responsibility must be shared, but the difficulty is to develop an appropriate method of doing so. Two schemes have been under review at Geneva, but neither is presently acceptable to the United States. Canada, Britain, Western Germany and Switzerland agree more or less with the United States. The world food problem is as much political, social and economic, as it is agricultural.

Our Trade with Britain

A T the close of World War II, Britain found herself in a plight that was little short of desperate. Her people were weary and her one-time huge over-

seas investments had nearly all gone into the fighting of two costly wars, less than a generation apart.

It took grit, self-denial, and all the bulldog tenacity of the British, to change over from the frenzy of war to peacetime living, and to keep her people alive and healthy. Only in 1954, 14 years after the imposition of rationing, has Britain, at long last, been able to free herself from the rigid controls of everyday living. Handicapped by a shortage of dollars, Britain could only earn her living by stringent regulations as to their use: they must be conserved so that industry might have the raw materials for the resumption of manufacture and trade.

Canada has never been a really large purchaser of British goods. Our population has been relatively small, and our tastes generally similar to those of our neighbor, the United States. Our geographical location has created a situation where, as a rule, we have sold more to Britain than we bought from her, and used the credit thus obtained to meet our annual debit balance with the United States. We have helped Britain where we could, but until quite recently she has found it difficult to compete for trade in North America since World War II.

In 1949, Canada set up a dollar-sterling trade board to encourage trade with Britain, but the circumstances did not favor success. Since then, however, Britain has gone a long way toward overcoming her problems. Her gold position is now fairly satisfactory. Inflation has been checked, and she is in a much better position to compete in our markets.

Recently, J. S. Duncan, chairman of the Dollar-Sterling Trade Council, announced that the Council will again make an appeal to Canadian industry and to the Canadian public to give Britain a larger share of our market. Last year we had a favorable trade balance with Britain of \$214 million and an unfavorable balance of \$766 million with the United States. About four-fifths of our exports to Britain-mostly agricultural and other primary products-enter the British market on a free and competitive basis. Because Britain is now better able to compcte in our market, it is to be hoped that the Canadian people as a whole will look with favor on this effort and support it as they are able. There is every reason to believe that our exports to Britain can be increased, if we can help her to find the dollars wherewith to pay for them. Is there any more sensible way of helping her to do this, than by increasing our purchases from her?

Compensations

THE farmer receives, on the average, less than 50 cents of each dollar expended by consumers for the edible farm products he sells that are consumed in substantially the form in which he delivers them. The percentage varies from around 20 cents to about 70 cents. The consumer wonders why food prices are so high, while the farmer complains about the cost of distribution. Consumers tend to blame the farmer and the farmer accuses the middleman of making too much profit, some of which he often claims should rightly be his.

The fact is that the amount of real profit between what the farmer receives and what the consumer pays, constitutes a very small percentage of the consumer's dollar. More than at any other time in the history of mankind, the costs of distribution are chargeable to labor, which accounts for about 50 per cent of the total. Of the other intervening factors, including transportation, advertising, packaging and overhead, each is probably accountable for as much of the consumer's dollar as the net profit to handlers.

As our standard of living rises, we are able to pay for more and more services; and in no aspect of living are we more exacting than with respect to our food. We may not always eat what is best for us, but we want to be able to get it in convenient amounts, and all dressed up to appear appetizing. We also want it to keep well, and during recent years the frozen food industry has made a marked impact on the cost of living. Most of us, too, like bacon, but we don't like to look at the fat; consequently, packers have been led to cover up the fat with fancy striped packages, which effectively disguise it until the housewife gets it home. About 150 years ago a Frenchman dis-

covered a way of preserving food by cooking it and sealing it in cans. Today much of the food eaten comes out of cans and may or may not bear much relationship to the highly colored picture on the label. The housewife in reality buys a can and a trade name, relying on this and the pure food law, together with the reliability of the retailer, for the quality of the food inside.

The farmer is still the most important single factor in the build-up of the consumer's food dollar, but he is not as important as he once was. If anyone in the chain of distribution is to blame for this it must be divided between labor and the consumer buyer. Dr. E. C. Hope, economist for the Canadian Federation of Agriculture, presented some figures to the C.F.A. semi-annual meeting last month, which, based on D.B.S. statistics, showed that for the eight years 1946-53, the real income of the average Canadian non-farm worker was \$2,258, while the real farm income of the average Canadian farmer, including all unpaid family labor, was \$1,796. In no single year was real farm income as high as real income of the average non-farm worker. At no time in Canadian history has the average Canadian been able to eat so well, but in the process of achieving this condition, the farmer's share of the consumer's dollar has fallen. V

Sharing Educational Opportunity

NE of the recommendations of the Massey Commission on Arts, Letters and the Sciences was that the Federal Government should assist institutions of higher learning in Canada, by grants of money. The Government accepted the recommendation, and some 80 institutions received grants for the first time in 1951-52. The grants were on the basis of 50 cents per head of population in each of the ten provinces, which provided a total of \$6,991,000.

A recent report of the Bureau of Statistics reveals that because of federal aid, the 83 institutions involved, ended the year with a combined surplus of two per cent, as compared with a combined deficit of one per cent the year previous.

One swallow does not make a summer, nor does education guarantee the recipient either wisdom, comfort, or a lifetime of achievement. The 1951-52 experience of Canadian universities does suggest the wisdom of sharing the cost of education in a democracy, which, without it, would almost certainly turn to communism, or some other form of oppressive government. The fact that the success of democracies rests on the education of the individual, makes it imperative that every individual be given the opportunity to develop as fully as possible his, or her, inherited abilities, together with the opportunities provided by environment. To bring this about is the true function of education; and increasing participation by the federal government in the costs of education in Canada is a prerequisite to success.

Colchicine Pig

A DESPATCH from Stockholm. Sweden, a short time ago, reported that a Swedish scientist, Professor Goesta Haeggqvist, of Lund University, had produced a pig 8½ feet long and weighing 1,100 pounds. A year or so ago, a somewhat similar report appeared, which was followed shortly after by a statement from the professor, regretting the publicity and suggesting that the animal was a mere incident in the course of a research project in animal genetics.

The most recent animal appears to have resulted from the insemination of a sow with male sperm treated with the alkaloid chemical colchicine, which has the effect of multiplying the number of chromozomes in body cells, and thus altering the inheritance, sometimes surprisingly. The appearance of such an animal is, of itself, of no more significance than the freak flowers that occasionally appear in gardens. It does, however, remind us that science has a long life ahead of it; and that what we do not yet know about the secrets of Nature, so far outweighs what we do know, that there need be no end to our hope of learning something new.